56282

DATE	ISSUED TO

Digitized by the Internet Archive
in 2010 with funding from
CARLI: Consortium of Academic and Research Libraries in Illinois

http://www.archive.org/details/plexus06coll

THE PLEXUS

COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

OF THE

UNIVERSITY OF ILLINOIS

CHICAGO

VOLUME VI

TABLE OF CONTENTS, VOLUME VI.

PAGE

Abdominal *vs.*: Vaginal Hysterectomy, Henry O. Walker, M. D. 385
A Case of Supernumerary Muscle in the Fore arm, Valdemar Pleth, M. D. 103
Address, Charles Davison, M. D. 69
Alumni Notes.....34, 66, 97, 119, 152, 186, 232. 277, 322, 359, 415
Athletics and Practical Physiology in Medical Schools, Bayard Holmes, M. D. 176
Athletic Items.....193, 244, 278, 325, 420
Blood, George W. Post, M. D. 205
Bromide of Ethyl, Aime Paul Heineck 106
Book Reviews.....129, 156, 202, 336
Class Song, Hedwig Marie Lewke. 81
Clinical Department.....30, 61, 183, 230, 274, 322, 392, 414
Clinical Laboratory 21
Dental Jurisprudence, C. E. Milroy, A. M., L. L. B. 83
Difficulties and Dangers of Anesthetics, D. N. Eisendrath, M. D. 73
Editorials.....16, 59, 93, 117, 148, 179, 226, 271, 320, 357, 390, 412
Epidemic Cerebro-Spinal Meningitis, C. C. O'Byrne M. D. 73
Examination Questions for Interneship, Cook County Hospital, April, 1900. 99
Examination Questions for Interneship in Cook County Hospital, April, 1901. 427
Freshman Notes.....201, 247, 288, 334, 368, 398, 426
Henoch's Form of Purpura Hemorrhagic Mitral Stenosis and Insufficiency; Hypetropic Cirrhosis of the Liver; Carcinoma of the Esophagus with Mediastinal Granular Involvement, Maurice L. Goodkind M. D. 159
Important Practical Points to be Borne in Mind in Operating for Radical Care of Hernia, A. J. Ochsner, M. D. 373
Indications of Tracheotomy, Aimé P. Heineck, M. D. 264
Junior Notes 200, 238, 284, 331, 365, 395
Junior Promenade. 276
Letter from Cuba, Henry P. Newman, M. D. 354
Letter from Equador, Ralph Whitehead, M, D. 318
Library Notes.....31, 64, 95, 120, 152, 189, 232, 326, 393, 418

Management of Medical Colleges, William H. Browne..... 401
Medical Education in Paris and in France in General, Geo. Rubin, M. D 217
Myelination and Mentalization, L. Harrison Mettler, M. D... 17
News Items.....38, 67, 98, 155, 202, 242, 292, 335, 369
Notes on Surgical Diagnosis, Wm. M. Harsha, M. D..... 1
Physical Training, H. H. Everett..... 223
Plastic Operations for Restoration of Function, Dr. Carl Beck 99
Practical Points in Metric Prescription Writing, Bernard Fantus, M. D..... 7
Progress of Surgery, F. Gregory Connell, M. D..... 135
Putrid Gastro-Enteritis, S. Stevens, M. D..... 169
Poem—A Bacteriological Tragedy..... 294
Poem—An Obstetrical Ballad..... 370
Radical Treatment of Tuberculosis of the Lymphatic Glands, C. A. Brink, M. D. 19
Secretary's Report, Training School for Nurses, Wm. L. Noble, M. D..... 91
Senior Notes..... .....198, 235, 280, 328, 362, 394, 421
Senior Social Function..... 328
Senior Reception and Ball..... 360
Some Moot-Points in the Management of Fractures, Chas. Stoltz, M. D..... 379
Some Practical Points on the Tracts of the Spinal Cord Continued up to the Brain, W. T. Eckley, M. D..... 56
Some Things the Laity Ought to Know, Jas. L. Stewart, M. D. 311
Some of the Clinical and Operative Phases of Cholelithiasis, Alex. Hugh Ferguson 295
Sophomore Notes 201, 539, 286, 332, 366, 397, 424
State University Football Team..... 191
St. Peter's Dream..... 37
Strabismus, W. E. Gamble, M. D..... 49
Supperative Keratitis, Frank A. Phillips, M. D.....345
The Treatment of Retroversio-Flexions, Channing W. Barrett, M. D..... 251
The Physiological Laboratory, Geo. P. Dryer, M. D. 407
Valedictory Address, Minerva E. Brophy..... 78
Y. M. C. A.....291
Zoological and Geographical Distribution of Tuberculosis, W. A. Evans, M. D.....39

W. M. HARSHA, A. B., M. D.
Professor of Operative and Clinical Surgery, College of Physicians and Surgeons, Chicago.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. MAY 20th, 1900. NO. 1.

NOTES ON SURGICAL DIAGNOSIS.

Wm. M. Harsha, A. B., M. D., Professor of Operative and Clinical Surgery, College of Physicians and Surgeons, Chicago.

Since modern methods enable the surgeon to explore every part of the human body, all possible means of discovering various surgical lesions are made necessary. A potent reason for one man doing more surgery than another is the fact that he is prepared to find the diseases. I am aware that there is a class of surgeons who have formulæ for arriving at diagnoses and recommending operation. On this plan, a man will only need to learn that the patient is uncomfortable, that he has pain, has lost flesh or that he is disabled. No cause being apparent, the diagnosis is a "reflex trouble" and an operation on some favorite organ is advised, usually one most difficult for the patient to examine. If the surgeon leans to gynecology, it is the pelvic organs in women; if he is an orificial surgeon it is usually the rectum in either sex. But these suggestions are intended for men of scientific bent and training, of honest purpose and legitimate endeavor. The man who aspires to do the best in surgery, as in medicine, must avail himself of all that is known. If to this he can add his mite as he pursues his professional career, so much the better. In sociology men are roughly divided into three classes: First, those whose lives and influence tend to retrogression; second, those who maintain the *status quo*; and third, those who are more

56282

aggressive and by reason of greater ability or more energy and industry, advance the state of civilization. We may apply the same classification to professional life. If the student in or out of college keeps before him a fixed purpose, to advance himself and the profession he practices, it is worth more to him than all the lore he may have stored away in his brain. Other things being equal, that man who has the most well-directed ambition when he graduates will carry furthest in his professional career. It is for such as he that there is always room. It is the unskilled labor of every kind that is a drug on the market.

In many cases that present themselves to the surgeon, it is apparent at a glance what the trouble is. In others, all the means at our command will not suffice for a positive diagnosis; but the better and more systematic the investigation the fewer the cases that escape our search. In a paper like this, one can only touch upon the subject in various places leaving unmentioned the great bulk of the study that is common practice. A systematic investigation requires the keeping of case records. The scheme does not need to be elaborate, but should serve to remind the surgeon of every part of the human organism—that no guilty organ may escape. It is a distinct advantage in many surgical cases to accompany the completed record with a diagram, for which blanks are made, showing location and extent of disease. Important points in records are name, address, nationality, age, sex, occupation, family history, personal history, habits, former disease or injury, etc. The early symptoms are of much importance. Many a case of empyema has been overlooked by reason of neglect to inquire into the start of the disease; and the origin of tumors may be determined by the history of their development. The statement of the patient should first be heard and not shut off as of no consequence. Approximately 25 per cent of sarcomata originate from injury. Abscess of the liver is not confined to the tropics, but in many cases is preceded by attacks of dysentery or gall-stones. Abscess of the brain may exist for a long time, or occur a considerable period after an injury to the head. Before a man can expect to be a good diagnostician, he must be well-versed in the natural history of the disease, its etiology and evolution, and in regional anatomy. After the preliminary inquiry into the history of the patient's disease, a general

examination should be made. This may include visual, manual, instrumental, chemical or therapeutical examination. We should note first the appearance of the patient, as to nutrition, posture, cachexia, color, scars, deformity or asymmetry. Certain fractures and dislocations can almost certainly be diagnosticated by the posture of the patient. It is safe to say that in the majority of cases the mistake is made that we do not remove the clothing sufficiently to enable us to properly inspect the patient. I recall one case, in which for two weeks the writer overlooked enlarged glands in the axilla as a cause of temperature, because of neglect to strip the patient. The history and general examination by inspection failing to locate the trouble, we may next proceed to manual examination. In this way we may discover morbid growths, enlarged glands, periosteal nodes, mobility or immobility of bones or joints, differences of temperature, consistence of new growths, fluctuation, etc. In abdominal diagnosis a very careful palpation must be made to discover neoplasms, displacement, change of contour or size of organs. Beginning with the liver in most cases, we can determine if it projects below the ribs to the right, or approaches too near the umbilicus in front, or reaches too high (by percussion)) To relax the abdominal muscles, have the patient flex the thighs, or relax the abdominal muscles, persist in repeated alternating deep inspiratory and expiratory movements. Tenderness over the liver may be determined on deep inspiration of the patient, by pressure under or over the ribs or by percussion; and tenderness or tumor at the site of the gall bladder by careful palpation over its site or lower if displaced from any cause. A gall bladder enlarged and distended by stones may be nearer the normal site of the appendix than its own usual location. The kidneys can usually be palpated, their size, degree of sensitiveness, and position can also be determined. In many women one kidney, more often the right, is movable. When we have found a movable kidney with no great range of mobility, we cannot conclude it is of great importance in the majority of cases, except from attending symptoms. Perirenal abscess can usually be determined by pain, bogginess and fullness of the upper lumbar region, by measurement of the two sides, by tenderness on pressure and dullness on percussion encroaching on the abdomen, temperature, etc. The crucial test is aspiration. which is so

easy it is surprising that it is not resorted to more frequently. Cancer of the pylorus or ileo-cecal juncture cannot, often, be made out by palpation early enough to be operable, but chemical examination will be referred to later in the diagnosis of stomach cancer. The clinical history, age and other data will aid in diagnosis. Tuberculosis of the mesenteric glands. peritoneum, appendix or cecum, may be diagnosticated by the history heredity and manual examination. Conditions of the spleen can be determined when the organ is the site of abscess or otherwise enlarged so as to be palpable under the ribs or projecting below. If simple enlargement is present, examination of the blood will aid in determining whether malaria, leukæmia or other cause is present.

In the ordinary varieties of appendicitis there is little difficulty in diagnosis but in the tubercular form, or in those cases without temperature where there is just sufficient thickening of the mucosa to cause stenosis and recurring appendicular colic, there is great difficulty; and here physical examination is insufficient, as a rule, but will help when taken together with the history. In cystic condition of the appendix, a tumor can be palpated if of any considerable size. The pelvic organs can usually be made out except in very stout subjects; but owing to the pain incident to a thorough examination, a diagnosis is often in doubt. Here as in all examinations of the abdominal organs, it is of great advantage to have thorough evacuation of the bowels and bladder. If then the abdominal muscles are thoroughly relaxed and full expiratory and inspiratory movements insisted upon, it is surprising how much can be done to determine the conditions. In abdominal examinations it is frequently necessary to use anesthetics. They are recommended in all cases not distinctly contra-indicated, where repeated examinations have failed to make a diagnosis. In examinations of the anus and rectum the condition of the sphincters can be made out and the presence of hemorrhoids, fissure, or fistula can often be determined by manual examination. The erectile character of internal hemorrhoids may make them more apparent after digital manipulation, and the pain of ulcer or fissure is often made evident by the same means. Dr. Howard Kelly has urged the systematic examination of intra-abdominal organs in general in all suitable cases

of abdominal section. I have, within the past year, more than once seen the value of this method demonstrated. In one instance, section was done for tubal disease when the appendix was the organ affected. In many such cases a general examination by palpation through the incision will save the embarassment of future operation. Along lines of instrumental aids will be ausculation and percussion which are not limited in their usefulness to the thorax but may help to determine aneurism, tumors or fluid in the abdomen, movements of food into, or out of the stomach, and so help to determine a stenosis of cardiac or pyloric orifice. A hernial tumor if enteric may be so differentiated from anything else. We may class the exploring or aspirating syringe as a most important aid provided it is kept in proper condition. Pleuritic effusion, empyema, ascites, cystic fluids or abscess may be diagnosticated, and as a means of determining intestinal perforation in typhoid fever it may be useful. The only such cases I have seen operated had abundant fluid in the peritoneal cavity. About 81 per cent of perforations occur in the ileum, and the majority within a foot of the ileo-cecal valve. If the bladder is empty the aspiration should be about the median line, half way from the umbilicus to the pubis. While in the majority of cases of typhoid perforation the onset is sudden and symptoms pronounced, there is, notwithstanding, much uncertainty as to absolute diagnosis, and hence operation is often delayed or deferred.

The microscope will be of the most varied utility in examining the blood, the urine, cystic fluid abscess, as well as tissue growths, etc. In examination of the blood, the determination of leucocytosis may be an important link in a chain of evidence to prove there is suppuration going on within the body before it can be located by physical examination. Sometimes the microscope may discover malformations of red blood cells, that will aid in differentiating malignant disease from tuberculosis or abscess, although blood changes are slight in early stages of cancer. The presence of leucocytosis favors a diagnosis of sarcoma, rather than carcinoma, when these two are considered. Increasing leucocytosis may be an indication for operation in appendicitis when the clinical signs are not positive. It may not occur where the abscess is thoroughly walled off, and is not present in the mildest nor severest cases, but occurs in the

majority of the whole range of cases. (Int. Text-book of Surgery, Vol. I, p. 82), Leucocytosis is also an evidence of intestinal perforation in typhoid fever and with clinical signs makes the diagnosis more certain (Thayer, quoted by Keen, Surgery of Typhoid Fever, p. 218). In leukaemia and Hodgkin's disease the examination of the blood alone can determine the diagnosis. In some forms of infection the trne character can be learned by finding the bacteria in the blood, although many pyemias or septicemias proceed without free germs in the circulation. The amount of hemoglobin influences the outcome in operations. Mikulicz is said to decline to operate if the hemaglobin is below 30 per cent. (Int. Text-book of Surgery, Vol. I. 81.) The various instruments for segrating the urine are an important step in advance in determining the character and location of kidney lesions. The instrument of Dr. Harris being at once the most practical and easy of use in the majority of cases. Distension of the stomach by air or water will determine its size and position and like distension of the colon as recommended by Harris will prove of great value in determining the relation and possible origin of tumors. The endoscope may be used in the stomach, bladder and rectum as well as in more accessible cavities, although considerable practice is needed to make one proficient in its use. The X-ray may render a positive diagnosis of calculi, tumors or aneurisms as well as of bony lesions; and is the most valuable contribution to surgical diagnosis of recent years. Chemical examination of the stomach contents may determine the presence of cancer when no other means can be relied upon, the lactic acid test of Boa being perhaps the most reliable. Therapeutic diagnosis relates mostly to syphilis and tuberculosis, although the question has recently arisen as to whether in blastomycetic or actinomycotic infections the lesions may not disappear under the administration of the iodides. This needs further investigation. Many a reputation has been made by giving iodides in doubtful cases and there are excellent reasons for the practice becoming more general. Koch's tuberculin is believed by many to be a reliable test of tubercular lesions that are inaccessible to other diagnostic means.

103 State St.

BERNARD FANTUS, M. D.
Adjunct-Professor of Materia Medica, College of Physicians and Surgeons, Chicago,

PRACTICAL POINTS IN METRIC PRESCRIPTION—WRITING.

By Bernard Fantus, M. D.

In the story of the tower of Babel, "the Lord cursed men by confounding their language that they could not understand one another's speech." Cursed we are in this country not only by an almost Babelic confusion of languages, but also by the existance of several systems of weights and measures. Fortunately as far as languages are concerned, one officially and publicly holds sway over the rest; but unfortunately in weights and measures, we have one official standard and another standard in public use.

How many are there who do all they can to abolish this deplorable state of affairs in our beloved country? You certainly do not, if you are one of those who use the old Apothecaries' system of weights and measures; but are just one of the great many who are responsible for the continuance of this most unfortunate and confusing condition. It is true that the metric system might be looked upon as the intruder on the peaceful state of existance of a fairly useful system. This metric system, however, is so much supperior to the old one that, according to the law of the survival of the fittest, there can be no doubt of the ultimate complete victory of the new system. The position it now occupies shows that it has come to stay. It is the system adopted by the United States Pharmacopœia, it is the system used by scientists the world over, it is the system used in prescription writing by most modern and progressive physicians in this and all other civilized countries. Why not keep step with the times? Why perpetuate an old system that is bound to fall and that by its very coexistance with the new, the better one, has become an abomination and a curse?

Most practitioners have become so familiar with the old system that it is second nature to them, while the metric system presents apparently great difficulties and perplexities. It is a fact that there are certain difficulties connected with the metric system, which are not intrinsic ones, however, but mainly due to the lack of general adoption of this system. The main difficulty we

can see arises from the side of the pharmacist. There are some drug stores that do not own a set of metric weights and measures, and some druggists who do not have sufficient knowledge to compound metric prescriptions correctly. However, that race of druggists is rapidly becoming extinct; and, were the medical profession only one-half as progressive as the pharmacists, the last fossil of that type would have disappeared long ago, for we are in a position to force the apothecary to acquaint himself with the methods we adopt. The really serious difficulty is in connection with obtaining metric prescription bottles. There are but few drug stores that could afford to carry a complete line of both metric and ordinary prescription bottles; and what is more, it is almost impossible to obtain metric vials from the dealers in this country. This is a real obstacle. For in order to obtain full benefit from the adoption of the metric system, we must be able to write for 50, 100, or 200 cc. bottles instead of 30, 90. or 180 cc. as is necessary at the present, inasmuch as we all agree on the soundness of the principle "to write for a bottleful" Another difficulty lies in the fact that most practitioners, knowing the dosage of drugs in the Apothecaries' system, are unwilling to learn it over again in the metric system or to take the trouble of translating the dose from one system to the other by laborious arithmetic.

Now, we propose in the following lines, after reviewing some of the main facts of the metric system, which it is absolutely necessary to know before one can attempt to write metric prescriptions, to show how all the serious objections can be overcome by the knowledge of a few practical points, especially by the practising of an old simple rule published in a few text books on prescription-writing, but apparently forgotten or at any rate not used by the profession in general, a rule that appears to be just the thing needed to carry us easily and pleasantly through that disagreeable transition period from the one system to the other.

THE METRIC SYSTEM.

The following facts are all we consider necessary to know of the structure of the metric system for purposes of prescription writing.

The Units—The unit of length, the Meter (abbreviated m.) is

used as the basis from which all other units are derived. The unit of capacity, the Liter (abbreveated l.) is the quantity contained in a cube, each side of which measures one-tenth of a Meter. The unit of weight, the Gramme (abbreviated gm) is the weight of a cube of water each side of which measures one-hundredth of a Meter (a cubic—centimeter)

Multiplication and Division of Units, always in the decimal ratio, is expressed by prefixes. Terms derived from the Greek are used for multiplication.

Myria=10,000 times
Kilo=1,000 times.
Hecto=100 times.
Deka=10 times.

These are abbreviated in writing by using the initial as a capital letter, e.g. Kg=Kilogramme, or 1,000 gm. Latin prefixes are used for division.

deci=one-tenth
centi=one-hundredth
milli=one-thousandth

The abbreviations are the initial written as a small letter, e. g. cm=centimeter, or one-hundredth of a Meter. The necessity for the use of capital and small letter in abbreviation becomes evident when we remember that Myria and milli as well as Deka and deci have the same initials. To assist in remembering readily which of the prefixes are used for multiplication and which for division, the mnemonic GILD may be used.

Greek Increases, Latin Decreases.

In practical work the following terms are used:

For length—The Kilometer, written Km
" Meter, " m
" centimeter " cm
" millimeter " mm
For volume—The Liter, written l
" cubic centimeter, written cc

The cubic centimeter is the capacity of a cube each side of which measures one cm, which therefore is one thousandth part of a liter and ought to be abbreviated ml. It will be seen that 1 cc of water weighs exactly 1 gm. The cc is the measure used almost exclusively inpre scription writing.

For weight—The Kilogramme, written, Kg; also called Kilo.
" Gramme, " gm
" centigramme " cg
" milligramme " mg

The other terms are usually neglected, so, e. g. instead of speaking of 1 deciliter, we usually say 100 cc.

The Household Measures are assumed to have the following equivalents:

1 drop	approximates	.05 cc
1 teaspoonful	"	5. cc
1 tablespoonful	"	20. cc

This might appear incompatible with the idea generally accepted in this country that a teaspoonful equals ʒ 1 or 4 cc, and a tablespoonful ʒ ss or I5 cc. As a matter of fact, however, most of these household measures contain 25% more. So that the equivalents above given are not only necessary for the convenience of having round numbers in the decimal ratio, but also are more generally correct, and are safer for it is evidently better to err in assuming the maximum rather than the minimum capacity of the measure.

THE FORM OF A METRIC PRESCRIPTION.

As Roman numerals are inconvenient, the common Arabic characters are used exclusively.

It is customary to express all quantities of liquids as well as solids by weight.

While in countries where the metric system is used exclusively it has become unnecessary to use any sign or symbol for Gramme, it is necessary in this country at the present to use the word "gramma," better not abbreviated, placed over the column of figures. If there be only one ingredient in the prescription, the sign gm. following the numeral may be used, and should be underscored so as to call attention to the abbreviation and avoid the likelihood of its being mistaken for gr.

The use of the decimal dot has the danger that in hurried writing it might be made so small as to be overlooked, or that a spot of ink or a fly-speck might be mistaken for it. This, of course, would be a serious error as it would multiply or divide the quantity by 10, 100, or even more. Hence the use of a decimal line, just like that used in account-books to separate dollars and cents,

is to be strongly urged. If this is not used, it is absolutely necessary to place the figures so that the decimal points are just below each other.

In writing a metric prescription, the usual procedure is adopted of putting down the ingredients in order of their medicinal importance. Then the dose of each ingredient is decided upon, and this is multiplied by the number of doses in order to obtain the total quantity to be used in the prescription. Now instead of giving 8, 16 or 32 doses as we would in the ordinary system, we use the decimal ratio, *i. e.* we prescribe 10, 20, 50, or 100 doses which as will be seen, greatly facilitates the figuring. It is indeed this ease with which the decimal ratio lends itself to all arithmetical procedures which is one of the great advantages of the metric system.

Thus, were we to write for 10 doses of a mixture containing Fld. Ext. Cascara Sagrada, Fld. Ext. Glycyrrhiza, and Glycerin 2. cc. each; Comp. Tr. Cardamon 1. cc.; Tr. Belladonna .5 cc with Anise water as a vehicle, we would decide that the dose would have to be a tablespoonful (20 cc) and write as follows:

℞

	gramma
Ext. Rhamni Purshianæ Fl.	20
Tinct. Belladonnæ Fol.	5
Tinct. Cardamomi Comp.	10
Ext. Glycyrrhizæ Fl.	20
Glycerini.	20
Aquæ Anisi. q. s. ad	200

M. Sig. Tablespoonful in water every evening.

THE RELATION OF THE METRIC TO THE APOTHECARIES' SYSTEM.

In converting the terms of one system into those of the other, the following approximate equivalents will suffice for practical purposes.

Conversion of terms of ordinay into those of metric system.

1 inch equivalent to	2.5 cm.
1 grain or minim equivalent to	.06 gm.
1 drachm (solid or fluid) equivalent to	4. gm. or cc.
1 ounce " " " " "	30. gm. or cc.
1 pound or one pint " "	500. gm. or cc.

Conversion of terms of metric into those of ordinary system:

1 Meter ..... equivalent to 39.37 in.
(Remember 3 threes—3 ft., 3 in., and $\frac{3}{8}$).

1 Gramme or Cubic centimeter....equivalent to 15 grains or .....minims.

1 Kilo or Liter.....equivalent to 2 pounds or .....pints.

Rules for expressing quantities of Apothecaries' system in metric terms.

Rule A.—Reduce the quantity to grains and divide by 15.

Rule B.—Reduce the quantity to drachms and multiply by 4.

Rule C.—Reduce the quantity to ounces and multiply by 30.

The result is in each case the number of grammes representing (nearly) the same quantity. It will be seen that these rules are simply the application of above mentioned equivalents.

The following rule is, we believe, a golden rule. It is the rule which, as previously mentioned, we think capable of helping us immensely during the transition period from the one to the other system.

Rule D.—If we substitute the sign gm. or cc. for gr. or use sign m. or min. of the dose, we obtain 15 doses in metric terms. Reason: because 1 gm. or cc. approximates 15 grains or minims. Application. We wish to prescribe 15 doses of a mixture containing Chloral gr V, Potass. Brom. gr X, Tr. Hyoscyamus m XV to the teaspoonful of chloroform water. We simply put down the figures indicating the dose in gr. or m. as grammes, as follows:

℞

	gramma
Chloralis.....	5
Potassii Bromidi.....	10
Tinct. Hyoscyami.....	15
Aquæ Chloroformi q. s. ad.....	60

M. Sig.—Dose a teaspoonful

We used 60. gm. of Chloroform water because 1 teaspoonful approximately contains 60 minims and to obtain 15 doses we substitute gm. (or cc.) for minim

Should we wish to prescribe 30 doses, we simply multiply by 2. Were we to prescribe 60 doses multiply by 4. To prescribe 5 doses, we might divide by 3.

This rule saves the conversion of the dose into the metric system, it gives us a convenient number of doses without any process of arithmetic, it enables us to prescribe with the greatest ease mixtures which will fill the ordinary prescription bottles

kept by the druggist, for it will be observed that 60cc=f℥2. Were the dose a tablespoonful (m 240) the total quantity of 15 doses would measure 240 cc or f℥8.

This rule is equally applicable to mixtures of solids; e. g. 15 doses of Phenacetin gr. V, Caffeine Citrate gr. Iss would be prescribed as follows:

℞

	gramma
Phenacetin	5
Caffeinæ Citratæ	1.5

M. ft. pulv. in chart. No. XV div.
Sig.—One every four hours, if required

In figuring on the strength of mixtures or solutions of a certain percentage, the metric system is of the greatest service. For instance, a prescription for ℥i of a 2 per cent solution of silver nitrate.

℞

	gramma
Argenti nitratis	6
Aquæ destillatæ	30

Mental process of figuring: 1 per cent would be 0.3, therefore 2 per cent equals 0.6.

Two oz. of a 10 per cent ointment of resorcin would be prescribed as follows:

℞

	gramma
Resorcini	6
Petrolati	60

M. ft. ung.

In the above an attempt has been made to give points of practical importance only, to give them in such a way as to have them ready for every day use. Therefore, we have left out of consideration the comparatively unimportant and rather difficult matter of correction for the different specific gravities of fluids, necessary only for very accurate work in the gravimetric method of prescription writing here advocated. We have not even mentioned the correct equivalents in the two systems, as these can be found in every book on the subject, and are too cumbersome to be easily memorized and too complicated to be used in the ordinary processes of mental arithmetic employed in prescription writing.

Believing that all will agree that the establishment of the metric system is a desirable reform, and that reform like charity begins at home, we hope that the reader of this article will use the metric system in his very next prescription and ever hereafter.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

Editor, H. C. WADDLE, '03. **Business Mgr. E. J. MERKI, '02.**

Class Editors:

H. B. HAMILTON, '00. CHAS. M. NOBLE, '01. PAUL E. GRABOW, '02.
GUY C. WAUFLE. '03.

Faculty Department, DR. W. A. PUSEY. **Athletic Editor, A. DONKLE, '01**
Alumni Editor, DR. C. C. O'BYRNE, '94. **Clinical Department, JOS. ZABOKRTSKY, '01**

Publishers. - - - - - MERKI & WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **E. J. MERKI,** Business Manager, 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers willnot hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

EDITORIAL.

Dr. Wm. M. Harsha was born, grew up and received his preliminary education in Ohio, taking the degrees of B. S. and A. B. at the N. N. University, Lebanon. He attended his first and second years at medical college in Ann Arbor, Mich., and Cincinnati respectively, and graduated at the Chicago Medical College in 1883. He practiced medicine for several years in Decatur, Ill., establishing himself in a good practice and making some reputation as a surgeon.

In 1890 he came to Chicago and in the same year connected himself with the College of Physicians and Surgeons in the capacity of Instructor in Surgery. The next year he was made Lecturer in Medicine, which place he occupied for two years, when he was transferred to the place of Lecturer in Surgery.

After the death of Prof. Henry M. Palmer he was elected to the chair of Operative and Clinical Surgery.

Recognizing the need of the laboratory in diagnosis, he with Drs. Gehrmann and Wesener established the Columbus Medical Laboratory with which he was associated for several years.

He is a member of the Chicago Medical Society, Illinois State Medical Society, Mississippi Valley Medical Association, American Academy of Medicine, American Medical Association, and the International Medical Congress, which latter he expects to attend the coming August in Paris.

* *
*

Dr. Bernard Fantus was born in 1874, in Buda-Pest, Hungary, and was educated at Leopoldstaedter Real, Gymnasium of Vienna, Austria. He studied pharmacy in this country in 1889-90. He graduated at the College of Physicians and Surgeons in 1899, and is at present interne at Cook County Hospital.

Dr. Fantus has taught Pharmacy for the last four years. He recently accepted adjunct professorship in Materia Medica at the College of Physicians and Surgeons.

* *
*

Mr. E. J. Merki, who has been business manager of the PLEXUS for the past four months has been compelled to give up his work in school and with the PLEXUS for a time on account of a severe attack of tonsiltis. Mr. Merki will go to some health resort to recuperate and we wish him a speedy recovery.

Mr. Merki's sickness will account for the delay of the April issue. During Mr. Merki's absence his PLEXUS work will be attended to by Mr. George Miller.

* *
*

We print with this issue of the PLEXUS the Index to Volume V, and it is our purpose to print the Index of Volume VI at its close.

* *
*

The fact that the collegiate work done by the College of Physicians and Surgeons is excelled by none of the Chicago medical schools, has again been demonstrated. At the last examination for internship at the Cook County Hospital, had it not been for the unfortunate losing of a paper in chemistry, the Col-

lege of Physicians and Surgeons would have taken its place at the head of the list has it as in the past three years, as F. G. Harris, one of the P. & S. representatives had the highest average, but was so unfortunate as to have misplaced or had misplaced his examination in chemistry, without which he stood seventeenth instead of first place. It is said that had he stood less than 50% on chemistry examination, he would have taken first place.

Three of our representatives, however, received places: Sears second, Jakubowski third, and Phalan sixth. Later Harris was appointed as first alternate.

* *
*

With this issue of the PLEXUS, Joseph Zabokrtsky, member of the Senior class, takes up the work as editor of the Clinical Department, which was so well done during the past year by Dr. E. A. Gansel.

Mr. Zabokrtsky is closely connected with the clinics of the school and our readers may expect to find this department a very interesting one during the coming year.

IN THE LAKE COUNTRY

of Northern Illinois, Wisconsin, Minnesota and Michigan, there are hundreds of the most charming Summer Resorts awaiting the arrival of thousands of tourists from the South and East.

Among the list of near by places are Fox Lake, Delevan, Lauderdale, Waukesha, Oconomowoc, Palmyra. The Dells at Kilbourn, Elkhart and Madison, while a little further off are Minocqua, Star Lake, Frontenac, White Bear, Minnetonka and Marquette on Lake Superior.

For pamphlet of "Summer Homes for 1900," or for copy of our handsomely illustrated Summer book, entitled "In The Lake Country," apply to nearest ticket agent or address with four cents in postage, Geo. H. Heafford, General Passenger Agent, Old Colony Building, Chicago, Ill.

RADICAL TREATMENT OF TUBERCULOSIS OF THE LYMPHATIC GLANDS; REPORT OF A CASE.

By C. A. Brink, M. D., Ord, Neb.

Of all the cases of tuberculosis of the lymphatic glands 95 per cent. affect the glands of the neck, owing to their exposed location.

The tubercle bacilli enter the lymphatic channels through some slight abrasion or pathologic defect of the skin, the deep glands being affected from the throat, the superficial from the skin, both sides of the neck being more commonly affected.

The bacilli are carried along the lymph-canals until they reach a gland, where they lodge and begin to set up an inflammation, which causes a proliferation of epitheloid and giant cells, causing enlargement of the gland. Later, the cells in the center undergo coagulation necrosis, followed by caseation, and finally the entire gland is destroyed, leaving only the capsule to protect the surrounding tissue. A single gland is seldom larger than a walnut; the large mass felt on palpation is several glands connected. If secondary infection with pus microbes takes place, an acute suppurative inflammation occurs which results in rapid spreading suppurative periadenitis. The resulting abscess should be fully incised, and all the glandular tissue removed. The disease may be arrested and at any time become active and lead to general infection. Fränkel estimates the average duration of the disease as from three to four years. Sooner or later pulmonary or diffuse general tuberculosis is almost sure to take place. Senn says that "early operative interference is as necessary in the treatment of tubercular adenitis as in the treatment of malignant tumors, and holds out more encouragement so far as a permanent cure is concerned."

The treatment is to remove all the diseased glands, leaving nothing to reinfect the surrounding tissue. The usual incision is along the anterior border of the sterno-cleido-omastoid muscle. If the posterior glands are involved, the muscle must be divided in its center. When all the diseased glands are removed, suture

the muscle together with six catgut sutures. No glands being ruptured, the wound should be closed without drainage.

CASE 1.—About March 10, 1894, I was consulted by Miss V. in regard to a swelling on the left side of her neck. She said she had used all the common local applications, with negative results. I made the diagnosis of tuberculosis of the cervical glands of the superficial set, and advised an operation at once. She consulted Dr. D. A. K. Steele of Chicago, who confirmed my diagnosis. He operated March 17, 1894, removing five glands, the largest being the size of a walnut, and being in that stage of caseation, the others ranging down to the size of a hazel nut to a split pea. She made an ideal recover.

Eighteen months after the first operation she noticed more glands, which were also of the superficial set, these being lower down, near the clavicle. On March 8, 1896, Dr. Steele again operated, removing the same number. These glands were about the size of a hickory nut. The wound healed by primary union.

During the winter of 1896–1897 a large number of glands became enlarged; this time they were of the deep set. On Feb. 10, 1898, Dr. T. A. Davis of Chicago operated, removing in all about thirty glands. This was a very extensive operation An incision was made over the submaxillary gland, extend ing back about one and one-half inches. This was connected by a long incision down to the clavicle. A plaster-of-paris cast was applied, which was removed in seven days, the patient making a rapid recovery. In July, 1798, more glands became enlarged. These were of the deep set, and on March 28, 1899, I, with the assistance of Dr. F. D. Haldeman of Ord and Dr. Neal Cameron of Burwell, operated, removing six glands. After the incision through the skin and superficial fascia the operation was completed by the finger and blunt instruments, being careful to go slowly lest some vessel or nerve be wounded. The wound was closed with silk sutures, dusted with powdered boric acid and dressed with antiseptic dressings. At the end of seven days the dressings and sutures were removed. Primary union had taken place.

May 9, 1899.—No glands have appeared, and the patient is in good health.

CLINICAL LABORATORY DEPARTMENT.

W. E. Coates, M. D.

Parasitic Origin of Tumors:

However interesting the observations of Italian and other European investigators on the infectious and parasitic nature of tumors, the conclusions reached by Alfred Haviland of England, in 1868, and again in 1899, are of equal importance viewed in the light of recent investigation in Europe and America. Haviland's paper on the "Geographical distribution of cancer among females throughout England and Wales, during 1851-1860," published in 1868, called attention to the following points:

1. The districts having the highest death rates from cancer among females were seasonably flooded areas traversed by or in close proximity to fully formed rivers.

2. Geologically, these high mortality districts were characterized by alluvium and sub-soils of clays of every variety, age and formation.

3. The low mortality districts were situated on elevated land where the drainage was good and the physical features such as to preclude the possibility of floods; where rivers had their sources and in fact were not fully formed.

4. These low mortality districts are characterized, geologically, by underlying strata of limestone.

Though more than thirty years have passed, Haviland finds that these observations still hold good for the period 1881-1890.*

Directly in line with Haviland's observations are those of another English investigator, D'Arcy Power, on "Cancer and Cancer Houses."† This paper is on the occurrence of cancer in certain regions and houses, thus affording strong evidence of its infectiousness.

By platting the map of a district, 60 square miles of a flat country lying 60 to 150 feet above sea-level with a population of of 1200, among whom insanity, phthisis and cancer are peculiarly prevalent, D'Arcy Power shows the houses in which cases of cancer have occurred. The question of blood relationship is naturally taken into consideration, but histories are given of

houses in which one or more members of the families of three successive tenants developed the disease. In some instances these striking phenomena occurred in the case of a single house, in others in rows of houses under one roof. These highly infected districts were located in every case in low, marshy ground, usually on the banks of a river or stream—conditions identical with those described by Haviland as prevailing in his high mortality districts. Power's maps show the remarkable tendency for cases of cancer to cling to certain spots and groups of buildings, irrespective of the age or size; poverty and reduced income capacity do not seem to determine this local segregation, since the manor-house as well as the cottage shows a like condition.

During the years 1872-'98, 173 cases of cancer were under observation, 59 in men, 113 in women; 49 had cancer of the alimentary canal, 10 epithelioma of the lip, 22 cancer of the liver; the breast was effected in 37 cases and the uterus in 31.

The disproportionate number of cases of gastro-intestinal cancer drew Power's attention to the water supply in particular, and the relationship of the infected areas to the water distribution supports in large measure the contention of Haviland, yet he does not believe that water is the direct infecting agent and an intermediate host is suggested. Power says that it would be interesting to imagine that cancer was caused by an organism allied to and living under similar conditions to that of malaria, but differing from it in that it had a much longer incubation period, attacked tissue in a more decadent condition, that it no longer confined itself to the blood but was capable of penetrating the tissues, thereby causing a rapid proliferation of the cells, both epithelial and connective tissue.

From the localized epidemics of cancer restricted to certain districts, villages, houses, and even single rooms in a house, Power concludes that there is a strong presumption in favor of cancer being an infectious disease, to which some are more susceptible than others. Locality seems to be the chief factor, and the nature of the locality associated with cancer seems so characteristic that it is possible even to say whether or not it is advisable for a patient with a known tendency to malignant disease to remain in this or that locality. As to the actual cause, he leaves it still in abeyance, and notwithstanding the remark-

able cases mentioned in his paper, does not think the exciting cause will be found in any given room, house, or water supply, but must be looked for much farther afield, and it will almost certainly prove that there is some intermediate host, whose chances of detection will increase or diminish with the care which is taken to examine the fauna and flora of these particular districts.

Other continental observers, notably Behla‡, Behrens, Pfeiffer, Arnaudet, Schuchardt and others have narrated apparently striking examples of small cancer centers in villages, parts and streets of cities, and in single houses—all tending to corroborate the statements of Haviland and D'Arcy Power. Districts are cited in which carcinoma is apparently endemic, the death rate ranging from 1 carcinoma death to 7 or 10 deaths from all other causes in these districts. Behla's observations show that in a well circumscribed part of Luckau the proportion is 1 to 10.

In a previous review of Behla's work (PLEXUS, Nov. 1899) the writer called attention to the *Plasmodiophora brassicae*, a parasitic species of Myxomycetes which Behla mentions as having a possible relation to the prevalence of carcinoma in Luckau. The local conditions in Luckau and other carcinoma centers leads Behla to believe that the available facts point to carcinoma being a parasitic disease whose germs, in certain localities at least, are conveyed by water contaminated with vegetable matter of all kinds and richly loaded with aquatic plants and numerous varieties of minute organisms. Behla found in his cases that the most frequent seat of the cancer was in the stomach and liver, a fact pointing to the probable parasitic origin by way of infected food and water supply. He found the cancer districts marshy, the streams and ditches filled with sluggish, stagnant and po luted water, which was used for watering the garden vegetables and for the drinking purposes. Numerous parasitic diseases of the ordinary garden vegetables are common in Luckau, and Behla was able to produce in rabbits a disease which greatly resembled coccidiosis by feeding leaves covered with parasitic proliferations.

The abnormally high proportion of deaths from carcinoma in certain districts and the sudden exacerbations that occur in certain years are best explainable, according to Behla, by the theory

that parasites are at work, which in such districts and seasons find conditions more favorable for their growth.

The present writer, in reviewing the results obtained by Haviland, Power, Behla and others on the relations existing between the spread of cancer and soil conditions. drainage and water-supply of infected districts, has quoted extensively from these investigations for the reason that the writer believes the observations of Haviland, Power, Behla and their co-workers have a direct and important bearing on the parasitic origin of tumors.

What are some of the known facts in the life history of fungi that justify this belief?

Fungi inhabit nearly every form of living and dead organic matter. Decaying vegetable matter of all kinds, dead flies, fish and animals, saccharine fluids, greasy bones, food stuffs like bread and cheese all furnish the medium in which saprophytic species develop and thrive.

Parasitic forms live on and in the tissues of flies, grasshoppers, fish, birds and even man among the animals; others attack pollen grain, diatoms, algae, and even other fungi. From present indications it is probable that nearly every species of the higher plants has growing upon it some form of fungus that has adopted it as a host and lives at its expense. Three or four different parasites may at times be found preying upon a single species of the higher plants, even infesting the same leaf.

Certain species of parasitic fungi exist under widely different forms at different seasons; and frequently alternate from one host plant to another—a circumstance which adds greatly to the difficulty of study and identification. Certain forms that were once considered as distinct species, and even as members of different genera are now known to be simply diverse stages of the same parasite preying upon widely different hosts at different seasons. This process is known as polymorphism and alternation of generations and, in determining the relation of low parasitic forms to tumor growths, will prove one of the most difficult problems to solve. Another difficult problem is the fact that many of the parasitic forms are obligate parasites, growing only on living organic life; others on the contrary are facultative in their habits, at one alternative stage leading a saprophytic existence, at another a

parasitic, both the saprophytic and parasitic stages being necessary to complete the life cycle of the species. Again, fungi differ very materially from flowering plants in the provisions for reproduction which in fungi are usually provided for on a lavish scale. In the great majority of parasitic fungi there are at least two distinct forms of fruit, and in some cases three or even four distinct and very different forms of reproductive bodies are produced during the life cycle, each performing a function not performable by any one of the other forms. Some of these spore forms are resting spores, requiring weeks or months before they will germinate after lying in the soil; other resting spores produced in the body of the host will not germinate until the death of the plant or animal host and the subsequent disintegration of the dead host body.

According to Cooke, Underwood, and other mycologists, there are at least 35,000 to 40,000 known species of fungi, how many of these are either true parasites or facultative in their habits it would be difficult to say, the most conservative estimate would be from 4,000 to 5,000 species. They vary in size from single microscopic cells, growing parasitically within or between the host cells, to systems of entangled threads many feet in extent which develop reproductive bodies as large as a man's head, or even larger. In fact, the reproductive body in many species of fungi is the most conspicuous part of the organism.

Parasitic fungi vary in the effects produced on their hosts. This variation depends on the species of the infecting fungus and the stage of its development, also on the host species and the stage or period of its development at the time of infection. Many other factors enter into consideration, but space will not permit a full discussion of these factors in the present paper. Suffice it to say that among the pathological effects produced by parasitic fungi on plant tissues are processes analogous to dermatitis, epithelioma, carcinoma, sarcoma, adenoma, fibroma, cystoma and granuloma.

"The study of minute forms of life, and the discovery of connecting types has driven us to the conclusion that there is fundamentally no definable difference between animals and plants, and it is useless to attempt to manufacture distinctions where they do not exist."

This quotation from Underwood voices the belief of the writer—there can be but one law governing the histology, physiology and pathology of plant and animal tissues, both plant and animal cells react alike to normal and abnormal stimuli. Admitting the facts involved in these statements, is it unreasonable to expect that parasitic fungi, originally parasitic on plant tissues, could and do adapt themselves to a parasitic existence with an animal host, producing in the body of the animal host disease processes identical with those produced in the original host plant? The writer believes that this very process occurs, and that in the study of comparative phyto-pathology and medico-pathology lies the solution of the parasitic origin of tumors.

The observations of Haviland, Power, Behla and others on the evident relations existing between geological conditions of soil, drainage and water supply in connection with the disease processes common to plants and animals merits the closest investigation. Well known facts in regard to the life habits and mode of distribution of fungi tend to support their observations. Among these facts the writer would call attention to the following:

Soils underlaid with limestone or soils heavily charged with lime salts are detrimental to the development of many parasitic plant fungi. Practical application is made of this fact by agriculturalists in treating infected soils and crops with solutions of lime to combat the ravages of certain fungi.

Fungi of all kinds find conditions most favorable for active growth in low lying alluvial districts in which the soil is heavily laden with remains of organic life of all kinds, districts in which an abundance or an excess of water is always present in the soil. As an example of the relation of soil conditions may be cited the case of many wood destroying fungi infesting forests. The trees in the valleys and low districts are more prone to suffer than those on the hill tops. Mention has been made of infected "cancer houses"—a possible solution may be found in the fact that many wood-destroying fungi are facultative in habit, attacking either living or dead timber. Certain species attack and destroy timber in bridges, cellars and other structures where an excess of moisture is always to be found in the surrounding soil.

Dissemination by fungus spores carried by water, or germin-

ation of spores, for which a requisite amount of water or moisture is required, undoubtedly plays an important part in the occurrence of parasitic diseases in plant and animal tissues. For example, *Agaricus adiposus*, a wound-parasite of the silver fir, produces its yellow sporophores on felled stems and split wood during the whole summer in moist parts of the forest, while in a cellar or other moist chamber the development of sporophores may continue over a year; *Polyporos Vaporarius*, a true parasite on Scots pine, attacks timber in newly-built structures, or in subterranean spaces and cellars, so long as it can obtain the necessary moisture. In a general way it may be said that the spores of most parasites germinate in water, but to this there are some exceptions. Spores of certain smut-fungi infecting grain, especially in the fresh condition, will not germinate at all, or only to a very limited extent in water, whereas they will do so at once on being offered a nutritive solution. On the contrary, *Tilletia*, a genus of Ustilagineæ, germinates only in water, and refuses to do so in nutritive solutions. Among the lower forms of fungi, such as the Phycomycetes, spores are generally distributed by means of water, especially in dew or rain. Zoospores are completely adapted for distribution by means of stagnant or slowly flowing water.

From the foregoing examples of the relation of water supply and moisture to spore dissemination, the presumption in favor of a relationship existing between cancerous diseases of the internal organs of the animal body and spores entering the body from infected water or food supply would seem justifiable. The presumption is still further justified by the fact that spores of many parasitic fungi are capable of germinating at the temperature of the animal body, both in and out of the body.

In concluding the present article the writer will be pardoned for quoting at length from a paper presented by him at the January, 1900, meeting of the Chicago Pathological Society:—

"The question to be answered is whether certain parasitic fungi, producing disease processes in plant tissues, can or might be able to produce similar processes in animal tissues. Many of these fungi are obligate parasites growing only on living organic matter, others are facultative in their habits. The only thing to be supplied is the ability of the fungus to adapt itself to an ani-

mal rather than a vegetable host. That certain parasitic Eumycetes or Hyphomycetes can exist under such conditions is an acknowledged fact. We have numerous examples in cases of skin eruptions and certain forms of granulomata. Within the last few years so-called *Blastomycetes* have been reported in tumor growths and in cases of dermatitis.

The Italian pathologists are right when they ascribe tumor growths to parasitic fungi—they are wrong when they restrict these fungi to the yeasts.

There are hundreds of low parasitic forms among *Phycomycetes*, *Ascomycetes*, *Fungi Imperfecti*, *Basidiomycetes*, and also among the fungus allies, the *Myxomycetes*, perfectly capable of producing lesions in animal tissues, histologically the same as in plant tissues, were they to change from a plant to an animal host. Careful study of a large number of tumors leads me to believe that this very process occurs. Forms that have been variously described as products of cell degeneration, etc. are present in nearly every tumor—many of these forms are identical in many respects with fungus forms, such as hyphal elements, spore bodies etc. Furthermore, the whole structure of tumor growths, metastasis, and all the problems involved in the pathology of tumors can be rationally explained on the grounds that parasitic vegetable fungi are present in the tissues of the host.

Kahane has defined, tentatively, an epithelioma as the expression of a peculiar symbiosis of epithelial cells, leucocytes and *Saccharomycetes*. Kahane's idea is partly right, though the so-called *Blastomycetes* or yeast-like fungi so far isolated are not true yeasts or *Saccharomycetes*, as they all, with possibly one exception, fail to produce saccharine fermentation. They belong to other low forms of parasitic fungi.

I will go further than Kahane and state as a working hypothesis, that tumor growths, with very few exceptions, are to be regarded as the result of a symbiosis of parasitic vegetable fungi and tissue cells. The hyphal elements of the fungi producing these growths are present in the tissues of the host and cannot with our present methods of staining be definitely distinguished from ordinary tissue cells in many instances. The growth which we regard as the tumor mass, call it sarcoma, carcinoma, or what you will, I regard as the result of the fructification of the

mycelium of the fungus—the completion of the vegetative stage of the parasite.

To thoroughly work out the problem of the parasitic origin of tumors will be a work of years, the work of many biological workers rather than a few. The laws governing the life habits of fungi must be carefully considered, spore formation, altenation of generations, chemical constituents of fungus cells, artificial cultivation and animal experiments must be carried out with radical departures from bacteriological methods now in vogue.

The laws of Phyto-pathological Mycology are the laws of Medico-pathological Mycology. When the Phyto-pathological Mycologist unites with the Medico-pathological Mycologist, the question will be solved—then and not till then will the parasitic origin of tumors be thoroughly known."

URIC ACID AND HEADACHES.

A physician who has been experimenting to discover, if possible, a relation between headaches and the retention of uric acid, found experimentally, that he could produce a headache in himself by adopting a diet of meat and cheese—foods which are highly nitrogenous and which in their burning up, produce a great deal of uric acid. He found in himself an excessive excretion of uric acid during a headache, which perhaps means that a headache is a sign of nature's effort to relieve the system of a poison that would do worse than produce headaches were it permitted to main. Such a headachy condition is comparable to the fevers which the human system often establishes for the purpose of distributing impurities, and can best be overcome by the timely administration of Laxative Antikamnia and Quinine Tablets.

Clinical Department.

JOS. ZABOKRTSKY.

Prof. Newman was first to meet the new senior class and in his usual manner has aroused the interest of the class by presenting several interesting cases for diagnosis and performing several operations among which perhaps one would be of interest if given in detail:

Patient: Mrs. E. Age 20. Married. American. Personal and family history is not complete.

Personal Hittory: Had child 15 months ago. Four weeks after birth of child patient was treated for laceration of uterus. Doctor was called because she fell in a faint. One week ago she called at physicians office with symptoms as follows: Vomiting, no temperature and pain in lower part of abdomen and pelvis. Patient was given appropriate medical treatment. She returned to the office on date of operation feeling much better, but still had pain in the pelvis. An examination was made which revealed a tumor like mass to the left and posterior of the uterus. On *slight pressure* this mass *gave way* and severe vomiting followed and patient went into condition of shock.

Patient was immediately taken to the West Side Hospital and then transferred to the clinic in C. A.

Operation: Patient was given an anaesthetic and prepared in the usual manner for operation. Incision in the median line revealed a collapsed intra-ligamentous cyst, about the size of a child's head, which was removed. Incision was closed and patient returned to the hospital in less than one hour from the time of the accident at the physician's office. Patient left the hospital fifteen days after the operation feeling perfectly well.

Prof. Murphy has presented to the class a great number of cases:—Among those operated on, were, Carcinoma of the mammary gland; Multilocalur dermoid cyst; Double herniotomy; Appendicitis; Sarcoma of the uterus; Ectopic gestation; and a case of osteomyelitis of the temporal bone.

During the past month Prof. Steele's clinic has consisted of

both minor and major surgery, among these there were several interesting emergency cases, just such cases as would be met in general practice. The major operations were, as follows:—for removal of a large cysto-sarcoma of the uterus which weighed thirty pounds. Removal of tubercular glands of the neck. Removal of gall stones.

LIBRARY NOTES.

GRACE W. BRYANT, LIBRARIAN.

Since the last notes appeared in the PLEXUS 250 volumes and 800 journals have been given to the Library. As it is impossible to give a full list of the books at one time they will appear in the order of their coming into the library, beginning with Dr. Byford's gift which was mentioned last time.

Dr. Casey A. Wood, on his recent visit to New York purchased 210 bound volumes and presented them to the Library. We wish to mention especially the 19 volumes of the Transactions of the Medical Society of the State of N. Y. one of which covered the transactions of that Society from the year of its beginning 1807 to 1837; and also the first 8 volumes of the N. Y. Medical Journal 1865-69. These volumes are not easily obtained and we consider ourselves fortunate in securing them for our Library. During the last year the Library has been the recipient of many favors from Dr. Wood for in addition to his personal gifts we receive through his influence the current ophthalmological journals.

We acknowledge the following gifts—Dr. T. M. Hardie 27 volumes, 25 pamphlets and 300 journals. Dr. F. B. Earle 4 volumes. Dr. Geo. F. Butler, 400 journals. Dr. J. B. Murphy, 90 journals. Dr. L. J. Mitchell 8 volumes. From the H. K. Mulford Co at the request of Dr. W. A. Evans we have received a full set of micro-photographs of pathogenic organisms, and also three-color reproductions from life showing the development of the diphtheria membrane and its disappearance under the action of antitoxin; and three-color reproductions from life of vaccination vesicle, showing the cycle of vaccination.

The following articles by members of the Faculty have been noted in the journals, Dr. A. H. Burr.—Restriction of marriage

for the prevention of communicable diseases. *Jour. A. M. A.* March 3, 1900, p. 524.

Dr. W. E. Coates.—A case of blastomycetic dermatitis, clinically and histologically an epithelioma. *Medicine*, Feb. 1900, p. 100.

Dr. G. F. Lydston.—Sanitonin in the treatment of epilepsy. *Therapeutic gazette*, Feb. 15, 1900, p. 90.

Dr. L. H. Mettler.—Sleep. *Doctor's Magazine*, Feb. 19, p. 20.

Dr. W. E. Quine.—Treatment of typhoid fever in private practice. *Jour. A. M. A.* Feb. 17, 1900, p. 452.

Dr. F. B. Earle—Rachitis. *Chicago Clinic*, April 1900, p. 161.

Dr. W. T. Eckley.—Some practical abdominal anatomy for practitioners. *Chicago Clinic*, March 1900, p. 126.

Study and dissection of the pelvic outlet. *Chicago Clinic*, April, 1900, p. 168.

Dr. W. A. Evans.—Three specimens of nemetodes including one filaria. *Chicago Med. Recorder*, April 1900, p. 161.

Dr. W. A. Pusey.—Roentgen rays in the treatment of skin diseases and for removal of hair. *Chicago Med. Recorder*, April 1900, p. 168

DR BYFORD'S GIFT.

Amer. assoc. of obstetricians and gynecologists. Transactions, 1888.

Amer. medical assoc. Transactions, 1871, '74, '75.

Amer. surgical assoc. Transactions, 1888.

Annals of surgery. V. 18. 1893.

Ashton, T. J.—Diseases and malformations of rectum and anus, 1860.

Blandford, T. F.—Insanity and its treatment, 1871.

Cohen, J. S.—Croup in its relations to tracheotomy, 1874.

College of Physicians of Phil.—Transactions, 1877, '81, '83, '87, '89.

Condie, D. F.—Diseases of children.—Ed. 6, 1868.

Congress of physicians and surgeons.—1889, '92.

Duchenne, G. B.—Localized electrization, 1871.

Edinburgh obstetrical soc.—Transaction, 1868, '77.

Fresenius, C. R.—Manual of qualitative chemical analysis, 1870.

Gross, S. D.—Pathological anatomy.—Ed. 2, 1845.

Gynecological soc. of Boston.—Journal. 5v. 1869, '71.

International medical Congress of Phil. Transactions. 1877.

Knapp, M. L.—Primary pathology.—Ed. 2. 1860.

Martin, August.—Pathologie and therapie der frauenkrankheiten, 1885.

Michigan, Health, Bd. of-—Annual report, 1879.

Neftel, W. B.—Galvano-therapeutics, 1871.

Obstetrical society of London. Transactions, 1879, '88. V. 20—23.

Reports on progress of medicine. 1867.

Ross, James.—Graft-theory of disease. 1872.

Royle, J. F.—Materia medica and therapeutics.

St. Partholomews Hospital reports. V. 26, 33.

Smith, C. N. ed.—Amer. gynecological journal, 1891.

Smith, J. L.—Diseases of infancy and childhood, Ed. 4. 1879.

Thomas, Robert.—Practice of physic. 1822.

U. S. Marine Hospital Service,—Annual report. 1873, '76.

Waring' E. J.—Practical therapeutics, 1871.

Wood, G. B.—Practice of medicine. Ed. 5. 2v. 1858.

Woodville, William.—Medical botany. 2v. 1790.

DR. T. M. HARDIE'S GIFT.

Brooks, W. K.—Invertebrate zoology. 1882.

Buck, A. H.—Diseases of the ear. 1889.

Gegenbauer, Carl.—Comparative anatomy. 1878.

Gottstein, J.—Diseases of the larynx. 1883.

Gray, Asa.--Structural botany. 1879.

Huxley, T. H.—Study of zoology illus. by crayfish. 1888.

Kirstein, A.—Autoscopy of the larynx and trachea. 1897.

Miller, M. N.—Practical microscopy. Ed. 2. 1891.

Parker, T. J.—Zootomy. 1884.

Remsen, Ira.—Theoretical chemistry. Ed. 4. 1892.

Wurtz, A.—The atomic theory. 1881.

Wisconsin State Med. Society.—Transactions. 1892.

DR. L. J. MITCHELL'S GIFT.

Adams, J. H.—History of the life of Dr. D. H. Agnew. 1892.

Gluge, G.—Atlas of pathological histology. 1853.

Jenner, W.—Fevers and diphtheria. 1893.

" —Rickets, tuberculosis and abdominal tumors, 1895.

Paget, S.—Essays for students. 1899.

Rayer, P.—Diseases of the skin. 1845.

Shakespeare, E. O.—Cholera in Europe and India. 1890.

Warren, J. C.—Healing of arteries after ligature. 1886.

Alumni Department.

LOCATION OF MEMBERS OF CLASS OF 1900.

Archibald John Alcorn, 1611 Armitage Ave., Chicago.
John R. Birkelund, A. B., 669 Jackson Blvd., Chicago.
Fred C. Blackwelder, Litchfield, Ill.
Max Emanuel Bloch, 1153 Lincoln Ave., Chicago.
Clyde Allison Boice, Washington, Ia.
Clark A. Buswell, Interne, Insane Asylum, Elgin, Ill.
William Willson Cassidy, Wabasha, Minn.
Marshal G. Clancy, 748 W. 61st St., Chicago.
Burton Robinson Corbus, Interne Lakeside Hospital, Chicago.
John Francis Crowley, 509 Garfield Blvd., Chicago.
Asa Nathan DeVault, Ph. G., 264 S. Halsted St., Chicago.
Joseph P. Donovan, Interne St. Elizabeth Hospital, Chicago.
Guy Grigsby Dowdall, B. L., Rand-McNally Bldg., Chicago.
Calvin Sylvester Early, B. S., Ph. G., Interne Illinois Eye and Ear Infirmary, Chicago.
Roe G. Gale, M. D., Diller, Neb.
Edward Arthur Gansel, Interne Emergency Hospital, Milwaukee, Wis.
Henry French Goodwin, B. A., 511 Ashland Blvd., Chicago.
Wendell B. Grinnell, Wykoff, Minn.
Louis J. Halloin, Green Bay, Wis.
Howard B. Hamilton, A. B., Ainsworth, Ia.
Wilbur S. Hamilton, M. D., Norman, Oklahoma Ter.
Clarence Wright Heath, B. L., 103 Adams St., Chicago.
Robert Bruce Hixson, Herman, Minn.
Edward Percival Hummel, La Porte City, Ia.
Everett M. Hurst, Greencastle, Ind.
Siegfried Jakubowski, Interne Cook County Hospital.
Frederick P. Knauf, Chilton, Wis.
George John Laben, 264 Dearborn, Chicago.
Vandy Frank Masilko, 2164 W. 12 St., Chicago.
Harry P. Mason, Wilton Junction, Ia.
Walter R. McCray, Ph. G., Marble Rock, Ia.

John Joseph Meany, 2063 Monroe St., Chicago.
John Earle Meloy, Olean, N. Y.
Bernard Miller, 605 Main St., Evanston, Ill.
William N. Moffett, Owasa, Ia.
Gustav Herman Moldenhauer, 13 Clarinda St., Chicago.
Carl G. Muehlmann, Ph. G., Pekin, Ill.
Soren S. Norsman, Madison, Wis.
Frances Elbert North, Chattenooga, Tenn.
John Christopher O'Day, M. D., Montpelier, Ind.
Ralph Fleetwood Palmer, Interne West Side Hospital, Chicago.
James M. Phalen, Ph. G., Interne Cook County Hospital.
Walter Jewett Pinkerton, Waupaca, Wis.
Ward Elverton Potter, Ph. G., Interne Chicago Clinical School.
Henry Joseph Rock, B. S., Aberdeen, S. Dak.
Chandler Preston Runyan, Elwood, Ind.
Jesse Samuel Rinehart, Cambden, Ark.
Franklin W. Sassaman, M. D., Valpariso, Ind.
Robert David Scott, Ph. G., Marion Sims Sanitarium, Chicago.
George L. Sears, Interne Cook County Hospital.
L. Delos Sheppard, 108 Loomis St., Chicago.
Arthur W. Sieker, A. B., Franklin, Wis.
Antone A. Sornsen, M. D., Sumner, N. Dak.
Seth Marion Billings Smith, Ft. Atkinson, Wis.
Rudolf Freimuth Teschan, 343 National Ave., Milwaukee, Wis.
Earle Henry Tyson, La Grange, Ill.
Henry A. Vincent, Perth, Kan.
Erwin Wendell Woodford, 273 Hanover St., Cleveland, Ohio.
John Henry Xelowski, Ph. G., Blue Island Ave. and Loomis St., Chicago.
Joseph P. Zaleski, 4647 S. Ashland Ave., Chicago.

'88. Dr. John F. Glover has been appointed superintendent of the Southern Indiana Hospital for the Insane, at Evansville, in place of Dr. George C. Mason, who has resigned on account of impaired health. Dr. Glover is an Evansville physician, a

graduate of the Chicago College of Physicians and Surgeons in 1888, and a warm friend of the late Dr. A. M. Owen of Evansville. He has been house physician at the Southern Hospital for several years. The Hospital is very fortunate in securing Dr. Glover as its medical superintendent. By training, temperment and experience he is peculiarly fitted for the position. The medical profession at Evansville and throughout the State will heartily endorse Dr. Glover's appointment.

The annual meeting of the alumni association was held at the Sherman House on Monday, April 16th. The following officers were elected: J. A. Wesener, '94, President.

The meeting was followed by a kneipe at which all seemed to enjoy themselves. About one hundred and forty alumni were present, together with a few members of the faculty. The class of '00 was proud to announce as one of their number Dr. J. B. Murphy, who acted as toastmaster of the evening. Regrets were read from Dr. Victor C. Vaughn, also a member of the class. Toasts were responded to by Tibias, '85, Earle, '85, Evans, '99, Mitchell, '86, Keumheimer, '87, and Doctor Babcock of the faculty and members of the class of '00. There was music by the college quartette, followed by a miscellaneous entertainment.

There were many alumni present from out of town and we expect them all back next year, and that many others will come with them. The thanks of the association are due the committee for their efforts in arranging the program, also they are due the faculty who made the entertainment possible.

BOOK NOTICES.

THE ANATOMY OF THE BRAIN. A Text-book for Medical Students. By RICHARD H. WHITEHEAD, M. D. Professor of Anatomy in the University of North Carolina. Illustrated with forty-one Engravings. 6¼x9½ inches. Pages, v-96. Extra Vellum Cloth, $1.00 net. The F. A. Davis Co., Publishers, 1914-16 Cherry St., Philadelphia, Pa.

"SONGS OF ALL COLLEGES," published by MESSRS HINDS & NOBLE, New York City.

Received by us during the current month. It is certainly the most complete collection of "popular" college songs ever put before the student and includes many very desirable new selections and each student should avail himself of a copy at the nominal price of $1.50. It is well designed and handsomely engraved and bound.

ST. PETER'S DEFENSE.

Some years ago, David Parker, a distinguished poet in the state of Maine, after the birth of his first child wrote and published the following pretty poem:

One night as old St. Peter slept,
He left the door of heaven ajar;
When through a little angle crept,
And came down with a falling star.

One summer, as the blessed beams
Of morn approached, my blushing bride
Awakened from some pleasing dreams
And found that angel by her side.

God grant but this—I ask no more—
That when he leaves this world of pain
He'll wing his way to that bright shore,
And find the road to heaven again.

John G. Saxe, not to be outdone, and deeming that injustice had been done to St. Peter, wrote the following as St. Peter's reply:

Full eighteen hundred years or more
I've kept my gate securely fast;
There has no "little angel" strayed,
Nor recreant through the portals passed.

I did not sleep, as you supposed,
Nor left the door of heaven ajar.
Nor has a "little angel" left,
And gone down with a falling star.

Go ask that blushing bride, and see
If she don't frankly own and say,
That when she found that angel babe,
She found it in the good old way.

God grant but this—I ask no more—
That should your number still enlarge,
You will not do as done before,
And lay it to old Peter's charge.

NEWS ITEMS

Spring work is progressing nicely the enrollment is 81.

Chas. O. Wiltfong and C. M. Noble have been appointed as house physician to succeed G. G. Dowdall and C. W. Heath.

Geo. Howard stopped here a few days on his way from Michigan, to his home in Bond, Mississippi.

A number of new students have enrolled this spring term and expect to complete work at P. & S.

O. M. Rhodes is doing the anæsthetic work for Dr. Murphy.

H. P. Mason and B. Miller of the class of '00, were recent callers at P. & S.

Baseball is receiving some attention during the spring term and the boys have some games scheduled.

Miss Ingersoll was called home recently by the illness of her mother.

Ira. J. Sexton has lost some time from school on account of trouble with his eyes.

It was learned yesterday from Dr. William E. Quine that Dr. Victor C. Vaughan, dean of the medical department of the University of Michigan, had been offered a chair in the College of Physicians and Surgeons, in this city, as professor of hygiene and clinical medicine. Dr. Quine expects Dr. Vaughan's answer by June 1. Dr. Vaughan is known throughout medical circles as an instructor who has practically made the department of medicine in the University of Michigan what it is. Regarding his intention of accepting the position proffered by the College of Physicians and Surgeons, advices from Ann Arbor reports Dr. Vaughan as declining to say whether he will accept the offer, saying: "I have often told the regents of the university privately that if the medical department here were not kept up as it should be I should leave. I have mentioned a flattering offer which a Chicago institution has made me. I have not, however, yet decided upon my course of action."—*Chicago Tribune*, May 20.

W. AUGUSTUS EVANS, M. D.
Prof of Pathology, College of Physicians and Surgeons, Chicago.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS,

VOL. VI. JUNE 20th, 1900. NO. 2.

ZOOLOGIC AND GEOGRAPHIC DISTRIBUTION OF TUBERCULOSIS.

BY W. A. EVANS, M. D.

Professor Pathology College Physicians and Surgeons, Pathologist Columbus Medical Laboratory, Chicago.

Tuberculosis is the most widely spread of all diseases. This is true whether we view the question from a zoologic or from a geographic standpoint.

Zoologic Distribution: I shall first state isolated facts; later I shall call attention to the relation of those facts to human tuberculosis. There is no question but that the cow is a frequent seat of tuberculosis. The statistics of Illinois show that of the cows tested 16 per cent. are tubercular. Of those of Wisconsin that have been tested, about 10 per cent. have been tubercular. These statistics are for herds examined. As you can readily see, the figure for the herds not examined would probably be materially less. It is a fact that there is universal acceptance of the idea that in dairy cattle there is tuberculosis and that this tuberculosis is in some measure dangerous to man. I have a letter from Colorado to the effect that around the cities there is about 2 per cent: of tuberculosis, but that in the range cattle there is none. Hirsch says that in the range cattle of Brazil there is no tuberculosis, while in the dairy cattle of the larger towns there is 15 per cent. Among cattle far the greatest

frequency is among milk cows. Next in order come bulls. Work oxen and calves show a very slight percentage.

The Horse: Chauvreau produced experimental tuberculosis in the horse and in the ass. Cadeac and Morot report two cases in horses. Thompson reports a case in a horse. Nocard says the horse is refractory to experimental tuberculosis, but is very frequently affected by tuberculosis contracted in the ordinary way. Tuberculosis in the horse is of two distinctive types,—the pulmonary type and the abdominal type. Nocard is of the opinion that the pulmonary type is due to the human bacillus, the abdominal type to the aviary bacillus. I could occupy a considerable part of your time citing cases of tuberculosis in the horse. The literature of comparative pathology and of vetinary medicine teems with such reports. This fact proves, first, that the disease is not exceedingly widespread and, second, that it is fairly abundant. We are to bear in mind that post-mortem sectioning is the exception in the case of the horse.

Hogs: There is no question as to the prevalence of tuberculosis in hogs. Copenhagen slaughter-house statistics show a percentage of 15. Those for Berlin show 1.55 Berlin, '93 to '94, showed 5-10 to 9-10 of 1 per cent. Johne says in Saxony in '97, 1.07 of the hogs slaughtered showed tuberculosis. Thomassen says that the statistics of Amsterdam showed 1 per cent of tuberculosis in the slaughter-house hogs. The Rouen statistics show 4-100 of 1 per cent. According to Bang, the statistics of creamery hogs show 11.38 per cent. tuberculosis. Tuberculosis in the hog is usually of the abdominal type. These figures gain importance when we recall that it is the thriftiest of all the hogs that get in the slaughter-house. These Copenhagen statistics show the effect of feeding hogs on the skim milk or slime from creameries.

Goats and Sheep: Colin has given tuberculosis to sheep by inoculation. Bollinger reports a case in a sheep. Cadiot, Gilbert and Roger, Moule, and Siegen report cases. Lydtin reports three cases in goats, Thomassen one. Colin produced the disease in a goat. The literature contains records of a moderate number of cases. Marrison says sheep and goats get tuberculosis when injected intravenously or continuously fed on tubercle bacilli.

Dogs: The museum of New Veterinary College, England,

contains a specimen of tubercular pericarditis in the dog. Vilemen reported six cases of tuberculosis in dogs. Berteau, Weichselbaum and Verageuth, Koch, Gamalera, Maffucci, Tagari, Mallin, Wells, Johne, Marcus and hundreds of others report one or more cases in the dog. Jensen found fifteen cases in eleven months. Bang reported thirteen cases. Elber at Dresden posted 400 dogs, finding tuberculosis in 2.75 per cent. Cadiot posted 900 dogs at Dalfort; in two years 40 or 8. of 1 per cent. showed tuberculosis. The disease in the dog is found especially in the lungs. Strauss says, "It is above all by reason of his cohabitation with men attacked by tuberculosis that tubercular infection occurs in dogs." Johne reports a case confirming this view. Czoker reports four similar cases.

Cats: Villemin produced experimental tuberculosis in a cat. Viseur made a cat tubercular by feeding it the tubercular lungs of a cow. This was confirmed by Nocard. Jensen at Copenhagen posted twenty-five cats in two years. Davis reports one case in a cat.

Rabbits and Guinea-Pigs: While these animals are habitually used for experimental tuberculosis, and possess a very great susceptibility they seldom contract the disease spontaneously. Says Strauss, "Rabbits and guinea-pigs are very rarely the subject of spontaneous tuberculosis."

Barn-yard Fowls: Tuberculosis is very frequently found in nearly all the varieties of domestic fowls. Strauss says that it is found in roosters, hens, pheasants, turkeys, pigeons, canaries, finches, ostriches, swans, vultures, owls and other carnivorous birds, as well as grain feeders. Turin, in posting 600 chickens, found 10 per cent tubercular. The Rhode Island Experiment Station found 15 per cent of a lot of incubator chickens tubercular. Bouley, Devillers and Siegen cited cases to prove that chickens contract the disease from being among tubercular people. Ribbert confirms this. Johne. Mollerea, Chilkowski, Lamilleria, Caguy, Koch and Nocard publish some confirmatory facts. Bray, of Kansas City, reports infection of a poultry yard by a man with tuberculosis. Strauss sums up the question as follows: "It appears then to be established that fowls can become tubercular from eating the excretions of tubercular animals." Nocard has demonstrated that the avian form of the tubercle bacillus is only a modification of the human,

just as Throbold Smith has demonstrated certain differences between the human and the bovine forms. Strauss says that ducks and geese are very refractory. He quotes Pomvy's experiences, showing that a poultry yard in which a great many chickens and turkeys died of tuberculosis, the ducks and geese living right with them remained healthy. Strauss reports a post-mortem made by himself on a tubercular lion in the Paris Zoological Garden. During the last two years I have posted 3 tubercular lions in Lincoln Park Zoological Gardens. In addition to this, I have found tuberculosis in the following animals: one tiger, one black wolf. one rock python, two mountain sheep, two elk, two antelope, two species of goat, 50 monkeys of all species and kinds. In the London Zoological Garden, ac cording to Forbes, 45 per cent of all the monkeys die of tuberculosis. In the Paris Jardin d'acclimation 2 per cent of all die of tuberculosis. In the Zoological Garden, Frankfurt-sur-le-main, 22 per cent die of this disease. In my observation, extending over two years, 94% have died of tuberculosis. This observation is on 50 monkeys with post-mortems. Strauss quotes Koch and others as showing tuberculosis in white and brown rats, white and field mice; a hamster. Says McEachren, Chief Veterinary Inspector of Canada "Rats, mice and other vermin, not only contract tuberculosis but spread the disease." Sibley reports a case in a serpent, tropidontis hatrix, an Italian snake, dying after a captivity of some months in a zoologic garden. At the Berlin congress the same author reported other cases in snakes; grass snakes and common English vipers. In this connection I recall my own case in a python kept for several years in a glass case in the animal house, at a temperature never falling below 70 degrees F.

Despergnes has produced tuberculosis in frogs and tritons kept at room temperature. Sortel and Despergnes have demonstrated that tubercle bacilli can be transported and spread by earth worms.

Geographic Distribution: Hirsch says that tuberculosis may be designated an ubiquitous disease in the strictest meaning of the term. Whatever reason there may have been for doubt as to the accuracy of this statement at the time of Hirsch has been since removed. The few places in which tuberculosis had not been reported in his day have since been found to furnish no excep-

tions to the general rule. So far as I have been able to gather, in the larger cities of Europe, the death rate from tuberculosis of all forms constitutes something more than one-fifth of the total death rate. The death rate is about 350 per year per 100,000 inhabitants. This is approximately true of every continental country.

Austria and Hungary will run a little higher than Holland and Switzerland. In the small towns and in the country the death rate is about 260 per year per 100,000 inhibitants. In Great Britain the situation is somewhat better, the death rate being in the vicinity of 225 per year per 100,000 inhabitants. According to Hirsch, Iceland, the Farve Islands, the Hebrides, the Shetland Islands have some but not much tuberculosis. According to data received from the government, the amount of tuberculosis in Iceland is about 150 cases per year. This, considering the open life of the people, the lack of crowding and the primitive conditions of life, together with the inaccuracy that must prevail as to death rate among isolated folk, constitues a considerable mortality. The northernmost parts of Norway and Russia appear to have but little tuberculosis—yet from all of these districts information must be meagre. That it is to be found is certain. In the account of the Wellman Expedition there is reference to a polar bear killed on the ice and showing tuberculosis. Nansen records bacteria and bacterial conditions in the coldest of latitudes. Of course he had no opportunity to observe tuberculosis.

It is found in Armenia, Syria, Persia, Mesopotamia, in Greece in Arabia, in India, in Turkey, in Ceylon, in East India, in China and Japan, in the Philippines, Sumatra, in all the islands of the Southern Pacific and in Australia. In Africa information is necessarily insufficient, but that which we have is to the effect that the conditions there are much the same as elsewhere. Where ever in the interior, lives are wild and houses are unknown, tuberculosis is present, but rare. On the coast, along the waterways, along the channels of communication where ever civilization has touched, tuberculosis is rife. Generally speaking, the disease runs a rapid course. The housed native, whether he be Bedouin or Kaffir, suffers to the maximum extent. The formerly supposed immnnity of Algiers, Morrocco and those portions of the western Mediterranean shore has not been sustained by fuller information.

When we come to America, we find the disease widely spread. A recent article in the Century Magazine on the giant Indians of Terra del Fuego, mentions their great robustness, so long as they stay away from civilization, but their rapid extinction by tuberculosis whenever they approach the ways of the white man. In Argentine, Uruguay, Paraguay, Brazil, Chili, Peru, Ecuador, Bolivia and the countries of the Caribbean littoral, it is fouud as in Africa. In the interior, in the scattered habitations of the higher elevations there is some tuberculosis, but not much. Along the channels of travel there is an increasing amount. In Rio and Pernambuco the death rate is 350 and 520 per 100,000 respectively. In Mexico and the other countries of South America there is the same story, rarely found in the sparsely settled interior, very virulent and very abundant in the more thickly settled littoral. In all the islands of the Caribbean Sea there is much. In Cuba it kills more people than does malaria and yellow fever combined. In the United States, according to the census of 1890, 103,000 people died with tuberculosis during the preceding year. It is the opinion of a statistician of authority connected with the census office, Wm. King, that this figure is 30 per cent. too low. This would make 143,000 or about 210 to each 100,000 inhabitants. It constitutes about 1-9 of the total death rate. In the city of Chicago it constitutes 1-8 of the total death rate.

I offer the following conclusions: 1st.—Every animal having tuberculosis is a center for the maintenance and spread of tuberculosis. We must admit great variance in danger, according to the animal affected. The danger from the cow, by reason of the fact that we drink milk uncooked is great. The danger from the horse is much less. In spite of this variance, the proposition commends itself. All of the excreta and the excretions at times contain tubercle bacilli. These either go directly into man, there to run the gamut of his defense, or they go into the world, there to perish as an usual proposition, but sometimes to persist and threaten men and other animals.

2nd. Animal and even aviary tuberculosis are not identical with but are related unto human tuberculosis. The translation of human into animal and aviary tuberculosis and vice versa is also possible. The first part of this proposition is allowed by every

body. A great deal of accurate, painstaking work has been done on the second portion.

I will only mention work of Theobald Smith and that of Nocard. Theobald Smith's work seems to me to show that while there are structural and biologic differences between the bovine and the human bacillus, that the differences are not of great pathologic importance. This is borne out by cases of infection of people by bovine bacilli and of cows by human bacilli. In a short search of the literature I have found cases cited by Strauss, Bang, Colin, Nocard, the Illinois Board of Stock Commissioners, Bray, Crosse of Geneva, Cadeac and Bourney. The observations of this nature are far too numerous for recital. Nocard's work showed that human tubercle bacilli could be transformed into the avian form.

3rd. Inhalation and ingestion are the most frequent means by which tuberculosis is spread from man to man, from man to animals, and from animals to man.

4th. The geographic distribution of tuberculosis is proof that the organism's extra corporal or saphrophytic life is of secondary importance. Argument in support of this proposition is found at every step by the bacteriologist. If the bacillus is found regardless of temperature, of soil moisture, of total rainfall, of elevation from the sea level, of prevailing winds, then it must follow that its essentials are to be found in the body, where environment is more uniform. Nuttall's observation that the number of tubercle bacilli expectorated in the 24 hours is about three billions would prove that only an infinitismal number live outside the bodies of animals. The lesser number of cases at high altitudes, away from cities in dry climates, etc., is due to the improved condition of the people and of their hygienic conditions, such as lack of crowding, well ventilated habitations, out-of-doors life, vigorous existence, etc., rather than difference in bacilli or difference in the effect on bacilli of their extra-corporal environment. However, we cannot altogether deny the effect of sunshine and drying on the bacilli that lie exposed.

5th. There is abundant evidence that the bacillus is modified by the bodies through which it passes. Such is the teaching of the work of Bang, of Smith, of Nocard, of Jones and many others.

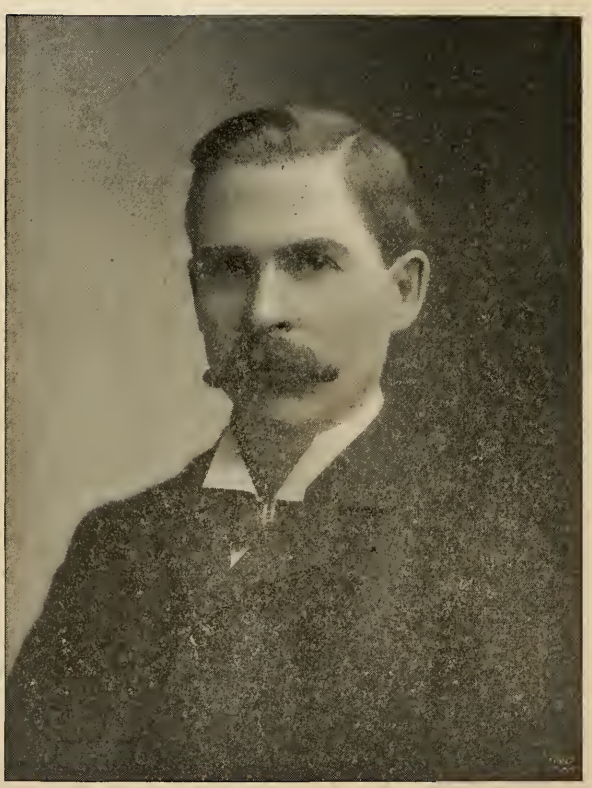
6th. While proposition No. 5 is incontestible there is no evi-

dence that the disease will disappear by reason of a general im munity. In the contest waged between the system and this organism, the wandering cells and the chemical substances of the body play a lesser part than in almost any of the infectious diseases. Protection is had by reason of the activity of the fixed tissue cells of the body. In those diseases which are due to organisms violently poisonous to the human body, the reaction is sharp, and death or cure speedily results. The very mildness of Tuberculosis is responsible for its ultimate severity. The fact that the system takes so little cognizance of it constitutes the difficulty. In consequence, immunity is less a factor than in any other infectious disease. By this I mean special immunity. The general immunity that comes from great good health and resisting power must be allowed by all.

7th. The decrease in the death rate from tuberculosis is more apparent than real. I want to reassert my statement made in this section last year that while fewer people seemed to be dying of tuberculosis than formerly died of it, that the proportion between the death rate from tuberculosis and the death rate from other diseases is not decreasing. In this connection we must bear in mind the fallacy of taking without great caution statistics that antedate 1880. If we limit our comparisons to the period since 1890 we will not find any material decrease.

8th. Tuberculosis is above all a disease of crowding and therefore a disease of cities. The disposition of the age is toward city life and therefore a slight decrease or even no decrease in tuberculosis constitutes a gain.

9th. At some future date in determining the question of favorable location in order that a man may escape tuberculosis himself, shield his family from it or get well, once the disease has been contracted, we must ask the following questions: 1st.—What is the altitude? 2nd.—What is the percentage of sunshine and cloud? 3rd.—What is the soil moisture? 4th.—What is the atmospheric moisture? 5th.—What is the population per acre? 6th.—What is the amount of tuberculosis present in men? 7th. What is the amount of tuberculosis present in animals and birds? 8th.—Is the mean temperature approximately that of the district from which the man is to go?



W. E. GAMBLE, B. S., M. D.

Adjunct Professor of Ophthalmology and Clinical Ophthalmology, College of Physicians and Surgeons, Chicago.

STRABISMUS.*

W. E. GAMBLE, B. S., M. D.,

Adjunct Professor of Opthalmology and Clinical Opthalmology, College Physicians & Surgeons, Chicago. The Medical College of University of Illinois.

GENTLEMEN:—When the eyes are at rest, that is, looking at a distance, they should look directly ahead; in other words, the visual axes should be parallel. When the visual axis of one eye turns in, i. e. toward the nose, to such an extent that casual inspection discloses the deformity we call it *convergent* squint. If the visual line of the eye turns out, i. e. templeward, sufficiently to be readily noticed the condition is termed *divergent* squint. The visual axis of one eye may turn up. It is not my purpose to discuss this condition today.

Strabismus is further divided into *paralytic* and non paralytic or concomitant. In paralytic squint there is a *loss of innervation to the muscles.* The antagonist of the paralyzed muscle or muscles acts unopposed, producing deformity. If paralysis of internal rectus is present the external rectus pulls the eye out, i. e., divergent paralytic strabismus. In paralysis of the external rectus the internal rectus pulls the eye in, i. e., paralytic convergent strabismus.

In *divergent* concomitant strabismus the principal causative factor is myopia. In this refractive condition there is no occasion for accommodation. The near point is so close to the eye that no accommodative effort is required for near work. There being no active innervation of the ciliary muscle, the internal recti receive an *inadequate nervous impulse.* Since the 3rd nerve supplies the ciliary muscle and the internal recti with nervous energy, the internal recti cannot be innervated without the accommodation being brought into use and the refractive error thereby increased. The patient elects to have better vision and poorer innervation of internal recti. The external rectus of the poorer eye being relatively stronger, pulls the eye out.

In *convergent* concomitant squint an *increased innervation* of muscle affected is present causing clonic spasm at first which later becomes tonic, and still later contracture in the muscle oc-

*A part of Clinical Lecture delivered to Senior class, March 23rd, 1900.

curs. The internal recti also are principally at fault in this form of squint and the eye turns in at first only when the child looks at small objects (periodic); later constantly when looking at a distance or at small objects. The internal rectus pulls the eye in because it is relatively stronger than the external rectus.

With this hasty review we will study the caees before us.

A. F., age 55 years, began to see double a year and a half ago. Is dizzy when walking; has had no pain in eyes nor headache. Inspection shows a divergent strabismus of left eye of 30°. V. R. E. $=\frac{20}{100}$. V. L. E. $=\frac{20}{30}$. He tells you the diplopia still troubles him. To avoid this discomfort he wears an opaque lens, a visor attachment on temporal side of spectacle frame. The vision of this eye is thereby occluded and the annoyance of diplopia avoided. But this is his better eye and it is consequently a great loss to give up the use of it. His attempt with left eye to follow the movement of my finger when at a distance of one meter in front of his face results in complete failure, except that he can move his left eye out, and on holding my finger below and in front of his face there is a slight torsional downward and outward movement of the left eye. This latter movement would point to the superior oblique being innervated. This loss of motion is called *limitation of motion.*

His right eye is now covered with this card. With the finger held two meters in front of his face and pointing toward the right side, his attempt to strike the end of my finger with the end of his index finger results in failure. He strikes too far toward the right. This symptom is called *false projection* and is only seen when the finger is held in such position as to be in region of function of paralyzed muscle.

Secondary deviation of his eye is greater than the primary as I demonstrated to you at the last meeting. These three symptoms, 1, limitation of motion; 2, false projection; 3, secondary deviation greater than primary, make out a case of paralytic divergent strabismus. The cause in this case, as it is in a very large per cent of paralyses of muscles supplied by the 3rd nerve, is tertiary syphilis. The medical treatment will consist in the administration of heroic doses of potass. iodi and application of electricity.

I now have a man aged 50 suffering from tertiary syphilis with paralysis of all the muscles of the left eye except the ex-

ternal rectus, (both extrinsic and intrinsic,) under treatment. He began taking potass. iodide 30 grain doses t. i. d., increasing the smount each day by 15 gr. He is now taking 640 gr. daily and will continue to increase the dose until I advise him to the contrary. He says he feels better than he has for months. His weight has increased, has good appetite and digestion. There has been no improvement of the eye until the last week. Yesterday he could raise the eyelid sufficiently to uncover the pupil and there is also some excursion of the eye inward. He has had the constant current applied to the eye, positive pole over affected muscles and negative pole to the back of the neck, every other day. Electricity in this case, I think, has had but little effect other than as a placebo. The amount of potass. iodide he is getting now is the largest dose I have ever given in these cases. I remember having given 480 gr. daily to a patient in paralytic squint for three weeks, with recovery of use of paralyzed muscles. I shall continue increasing the dosage in the patient I speak of as long as no contra-indications present themselves, or until I cure patient, or until the inefficiency of drug is demonstrated. Usually relief comes, when it comes at all, in two to four weeks after the initiation of this heroic treatment. Occasionally five to six weeks are required to demonstrate the utility or inefficiency of the remedy. The treatment to be of avail should begin soon after the involvement of the muscles. The muscles of the patient before us have been paralyzed a year and a half. Atrophic changes have occurred in the internal rectus and contracture in the external rectus. These changes can be but little if any influenced by drugs. The time for their usefulness is past. He is taking K. I. 240 grains daily and the constant current will also be used. The vision in his right eye is failing (primary atrophy) while vision in the squinting eye is $\frac{20}{30}$. The condition later may necessitate the advancement of the internal rectus and tenotomy of the external rectus of left eye, which will bring his eye into position for useful vision. Prisms in this case are of doubtful utility.

Case II. C. H., aged 8 years. His left eye began turning in, he thinks, when he was between three and four years old and has remained so until the present time. He says he never has seen double. As I move my fingers in front of his face up and down, to the right and to the left, the squinting eye moves with

the right, that is, accompanies the right. We use the word *concomitant* to express this phenomenon. This symptom is in marked contrast to the limitation of motion seen in Case I. Again, he has no false projection. If we were to measure primary and secondary deviation they would be equal. The vision in right eye equals $\frac{20}{30}$. The vision in left eye equals fingers at 20 ft. Why does the boy not see double? If you will make the slightest pressure, for example, on your left eye ball through the partially closed upper lid while looking at a distant object, you will see double. The boy has a much greater deflection of visual axis than you will have. You will have diplopia for an indefinite period, depending upon the relative value of your left eye. If your left eye is much better than its fellow you will be annoyed by diplopia for years or during rest of life if it were possible to keep up the pressure that length of time;like Case I who is still troubled by double vision of a year and a half's duration. If vision of you left eye were relatively poor as compared with its fellow you would within a few weeks suppress its image. This boy has long since suppressed the false image, that is the image of his left eye, for the reason that is much the poorer eye; at the beginning of his trouble (3 years) his left eye was better than it now is (vision $= {}_2\frac{6}{50}$). Its non use has produced the condition known as amblyopia ex anopsia. This boy no doubt at first saw double, but the image of his left eye was so imperfect, so blurred, that he easily got rid of it by exclusion much after the fashion of excluding one eye when using its fellow in studying through a microscope. This is is mainly a psychical phenomenon. It is probable an "ex anopsia" change takes place in the rods and cones of the retina on which the false image falls.

Another question presents itself. Why does the left eye turn in? There is no evidence of muscle disease. Indeed disease of ocular muscles is such a great rarity and of such transient duration that it can be absolutely excluded as a causative factor in this case.

In order that there be perfect equilibrium of the muscles that move the eyes, there must obtain a vary delicate adjustment of all the muscular forces. This nicety of adjustment very commonly does not exist; indeed imbalance of these muscles is so common that the oculist has a special instrument, a phorometer, or Maddox rod or prisms which he uses or should use in examin-

ation of every case of eye strain. The more powerful internal rectus is continually pulling the eye in too far, or the too strong external rectus pulls it out, or the overdeveloped superior rectus pulls it up too far. It addition to this congenital or acquired annomaly defective vision in one eye is the other factor that causes concomitant strabismus, as you see in this boy. If he could see well with the left eye he would innervate the external rectus of left eye and get binocular single vision. Persons with imbalance of the muscles with good vision relieve their diplopia by this extra effort of the weak muscle; but if vision of one eye from error of refraction or disease or injury becomes greatly reduced, the false image is easily excluded and the eye is at the mercy of the relatively stronger muscle. Concomitant strabismus, either convergent or divergent, is theresult. The most common etiological factor of concomitant strabismus in connection with want of equilibrium of extra ocular muscles is error of refraction and it is the part of the subject we wish to emphasize today. I put these spectacles on the boy and the convergence is corrected. I take them off and the left eye turns in at agle of 25°. An examination of the lenses in these spectatacles shows them to be convex lenses R+1D. L+4D. With the glasses on the vision of right eye is $\frac{20}{20}$. The vision of the left eye $=\frac{20}{40}$. That is, vision in each eye is increased, the left brought up from finger at 20 ft. to $\frac{20}{40}$ useful vision and thereby one causative factor of his strabismus, eliminated, and the second factor, over action of the internal recti, has been remedied by the same means. The imbalance that congenitally existed in this case, for not all hypermetropes become strabismic, was intensified by the relation that exists between accommodation and convergence. As has been said before, innervation of the ciliary muscle, i. e., accommodation, is simultaneous with innervation of the internal recti muscle. In order that the patient might see clearly he was compelled to accommodate; a part of the nervous energy—was side-tracked to the internal recti, hypertrophy of these muscles as well as tonic spasm of the left developed, periodic at first only when he was looking at small objects. Later the deformity became constant in the less useful eye, the left.

It was Douders who first pointed out the etiologic relation between hypermetropia and convergent concomitant strabismus. He found hypermetropia to be the principal etiologic factor in

80% of his cases. This finding is approximately corrobated by observers everywhere.

The treatment in this case consists, as was before mentioned, in the total correction of the hypermetropia under atropin.

℞ Atropin sulph. gr. 2
Aqua dist. oz. ss.

M. Drop one drop in each eye three times daily for three days or more, after which the refraction should be measured.

In periodic squint the atropin relieves the squint while its effect is still present. This is prophetic of relief with aid of the glasses. The glasses must be worn constantly and with the glasses on there is less need for accommodation, therefore the internal recti are not over innervated and the eye is not turned in.

In many of these cases orthoptric exercises should be practiced. For example, the good eye should be bandaged for an hour or more each day, the poor eye being called into use and relearns what it has unlearned. I mean the faculty of fixation. Exercise of this kind persistently carried out during months and years may raise the acuity of vision in the amblyopic eye to a marked extent.

Case III. Mr. H., 17 years old. Until two months ago had convergent concomitant squint of left eye of 35°. With glasses off he has less than 10° remaining. As you see, with glasses on his squint is hardly perceptible. He says he always had "cross eye." This statement is probably not true. The non parallelism of the eyes of the infant often alarms the young mother, who fear the baby will be "cross eyed." This phenomenon is usually due to the fact that the baby's visual centres (cunei) have not yet gotton control of the motor centres that govern the movement of the extra ocular muscles. This faculty is acquired commonly at the end of the second month (Petersen) but may appear much later. It does not appear unless natal paralysis is present, when the baby's generalized vision becomes specialized, *i. e.*, when he observes individual objects.

It is highly probable that the left eye of this young man began to turn in at about three years of age, for the reason given in Case II. He has no limitation of motion as you see. He says he has never been troubled with diplopia nor has false projection, which proves that this is not a paralytic squint but of the concomitant variety.

8. Arborizes in the anterior horn.

Vision R. E. = $\frac{20}{20}$.

Vision L. E. = counts fingers at 3 ft.

Six months ago I gave him to wear on right eye +3.50=+50 at 90°, increasing the vision of the right eye to $\frac{20}{15}$. Vision of the left eye could not be benefitted by the glass. He wore them for three months with but little correction of the deformity. The removal of the undue innervation to the internal recti muscle by the aid of the lenses did not correct the deformity for the reason that tonic spasm had long since given place to contracture of the internal rectus of left eye, an "ex anoposia" of this muscle also no doubt existing. I freely tenotomized both internal recti with but partial correction and a few days later the external rectus of the left eye was advanced, which you see has produced a good cosmetic effect. He will be advised to wear the glasses continually. There is little hope of our treatment markedly increasing the vision in left eye. Its perceptive faculty was probably congenitally defective in addition to the error of refraction, and this want of perception has been intensified from non use.

IN THE LAKE COUNTRY

of Northern Illinois, Wisconsin, Minnesota and Michigan, there are hundreds of the most charming Summer Resorts awaiting the arrival of thousands of tourists from the South and East.

Among the list of near by places are Fox Lake, Delavan, Lauderdale, Waukesha, Oconomowoc, Palmyra, The Dells at Kilbourn, Elkhart and Madison, while a little further off are Minocqua, Star Lake, Erontenac, White Bear, Minnetonka and Marquette on Lake Superior.

For pamphlet of "Summer Homes for 1900," or for copy of our handsomely illustrated Summer book, entitled "In The Lake County," apply to nearest ticket agent or address with four cents in postage, Geo. H. Hefford, General Passenger Agent, Old Colony Building, Chicago, Ill.

SOME PRACTICAL POINTS ON THE TRACTS OF THE SPINAL CORD CONTINUED UP TO THE BRAIN.

W. T. Eclley, M. D.

The direct pyramidal tracts are axons of motor cells in the cerebral cortex, in the region of the fissure of Rolando. They are for the supply of dependent muscles. They are continuous with the same tracts in the medulla. They decussate, not in the medulla like the crossed pyramidal tracts, but in the anterior white commissure of the spinal cord; having thus decussated, the fibres of the direct pyramidal tract arborize with cells in the anterior motor horn of the vesicular column. In its course, the direct tract passes through, or rather contributes to:

1. The corona radiata.
2. The knee of the internal capsule.
3. The middle $\frac{1}{3}$ of the crusta.
4. The second ventral longitudinal layer of pons.
5. The pyramids of the medulla.
6. The anterior commissure of the spinal cord.
7. Terminates by arborization in the anterior cornu of the opposite side of the cord.
8. It leaves the spinal cord as an anterior or nerve root.
9. Trophic center is in cerebral cortex.
10. Degeneration: descending.

The crossed pyramidal tracts are cmposed of axons of motor cells, in the cerebral cortex, in the region of the fissure of Rolando. They are for the innervation of indenpendent muscles. They decussate in the lower part of the medulla in the anterior median fissure, and ends in the anterior horn by arborization. In its course from above downwards the fibres of the crossed pyramidal tract pass through or rather contribute to:

1. The corona radiata.
2. The genu of the internal capsule.
3. The middle $\frac{1}{3}$ of the crusta.
4. The longitudinal layer of the pons.
5. The pyramid of the medulla.
6. The decussation in the anterior median fissure of med.
7. The crossed pyramidal tract of the cord.

9. An anterior motor nerve root.
10. Trophic center in the cortex cerebri.
11. Degeneration: descending.

1. *Goll's Column*—postero median. The fibres are ascending axons of cells situated in the posterior root-ganglian of the spinal nerves. Golls column changes its name in the medulla, to funiculus gracilis: it ends at the clava and its fibres arborize in the nucleus gracilis. From here the fibres, joined by the sensory fibres from Burdach's column, decussate and reach the dorsal surface of the pyramid, where they are joined by the fibres of Gower's column. The fibres pass through the pons and crus (tegmentum) to the subthalmic region, where they divide into two sets: one set continues on through the internal capsule and corona radiata to the cortex; the other set (the larger) pair into the optic thalamus and arborize and then pass through internal capsule and corona radiata to the cortex.
2. Trophic center: posterior root ganglia.
3. Degeneration: ascending.
4. Goll's column is supposed to be the respiratory tract.

1. *Burdach's Column*—postero-lateral tract, is composed of ascending axons of cells in the posterior root ganglia. It changes the name in the medulla to funiculus cuneatus and ends by arborizing, in the nucleus cuneatus. From here the fibres accompany Goll's, soon to be joined by Gower's to the cortex, passing through pons, crus (tegmentum) to the subthalmic region where (1) a small number of the fibre pass uninterruptedly through internal capsule and corona radiata to the cortex; (2) the greater number are interrupted in the thalamus and then reach the cortex in the same way.
2. Trophic center: posterior root ganglia.
3. Degeneration: ascending.
4. Burdach is the sensory tract of the cord, disease of which disorders muscular co-ordination in progressive locomotor ataxia.

1. *Gowers' Column*—antero-lateral ascending cerebellar tract is composed of axons of cells in Clark's column. It ascends through the lateral tract of the medulla, some of its firbres reaching the worm of the cerebellum via the superior pedundcle, others joining the fibres of Goll and Burdach on the dorsal surface of the pyramid to form the lemniscus fillet or sensory tract, and follow the course taken by Goll and Burdach.

2. Trophic center: Clark column.

3. Degeneration: Ascending.

1. The direct cerebellar tract is composed of axons of cells in Clark's column. The fibres pass through the restiform body of the medulla inferior peduncle, terminating in the worm of the cerebellum.

2. This column degenerates in cerebello spinal ataxia, which runs a rapid course affecting the nutritive functions of the body.

3. Trophic center: Clark column.

4. Degeneration: Ascending.

5. Function: Nutrition.

6. Disease cerebello-spinal ataxia.

6. Autero-lateral descending cerebellum tract is composed of axons of cortical cerbellar cells. They pass through the inferior and middle cerebellar penduncles and reach the anterior roots of the spinal nerves.

Trophic center: cerebellar cortex.

Lissaur s tract is composed of fibres which are axons of the posterior root ganglia. They ascend and end in cells in the substantia gelatinosa Rolandi.

Fillet or lemniscus is a collective name by which the sensory tract from the medulla to the brain is designated. In other words the sensory paths in the spinal cord, Gall, Burdach and Gowers, are called tracts to the medulla; from here on, they form the fillet. In the crus cerebri the fillet breaks up into three parts called upper fillet, middle fillet and lower fillet.

Origin of the fillet: 1. In the nucleus gracilis, which is the terminal station of the column of Gall; 2, in the nucleus cuneatus, which is the terminal station of the column of Burdach; 3, of certain posterior spinal root fibres. These decussate in the anterior commissure, those fibres from the nucleus gracilis and cuneatus, decussate in the mediae raphe of the medulla.

Composition: Of sensory axons from 1. The nucleus gracilis; 2, sensory axons from the nucleus cuneatus; 3, sensory axons from the accessory auditory nucleus, coming through the dorsal transverse layer of fibres of the pons.

Divisions of the fillet: Beyond the pons the fillet divides into 1. The upper fillet, which ends in the nates; 2, the lower fillet, which ends in the testes; 3, the mesial fillet, which ends in the lenticular nucleus and cortex cerebri.

The fillet traverses the formatio-reticularis of the pons and medulla, and the tegmentum of the crus cerebri.

THE PLEXUS

THE OFFICIAL ORGAN OF
THE COLLEGE OF PHYSICIANS AND SURGEONS
MEDICAL DEPARTMENT
UNIVERSITY OF ILLINOIS.

Editor, H. C. WADDLE, '03. **Business Mgr. E. J. MERKI, '02.**

Class Editors:
H. B. HAMILTON, '00. CHAS. M. NOBLE, '01. PAUL E. GRABOW, '02.
GUY C. WAUFLE, '03.

Faculty Department, DR. W. A. PUSEY. **Athletic Editor, A. DONKLE, '01**
Alumni Editor, DR. C. C. O'BYRNE, '94. **Clinical Department, JOS. ZABOKRTSKY, '01**

Publishers. - - - - - MERKI & WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **E. J. MERKI**, Business Manager, 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers willnot hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

EDITORIAL.

We were pleased recently to receive a call from Dr. Rodney C. Smith, first Editor-in-chief of the PLEXUS. Dr. Smith was on his way to Manila, Philippine Islands having recently received an appointment as assistant surgeon in the United States Volunteer army. Dr. Smith's brother, Dr. Thurston M., also former Editor-in-Chief of the PLEXUS and Dr. J. R. Hudson, class of '96 are now in the Volunteer army in the Philippines in similar capacities. We hope soon to publish some items of interest from these representatives of ours, in our new possession.

* *
*

Dr. F. Gregory Connell, Adjunct Professor of Clinical Anatomy, College of Physicians and Surgeons, was recently awarded the

Senn gold medal for presenting the best paper on Surgery during the past year. Dr. Connell has a bright future before him and his ability is rapidly becoming recognized.

* *
*

Dr. W. A. Evans, the author of the leading article of this issue of the PLEXUS, was born at Marion, Ala. in 1866. Dr. Evans is a graduate of the Agricultural College of Mississippi, with B. S. and M. D. degrees and took his degree of medicine from the Medical department of the Tulane University of Louisiana and M. D. *ad eundem*, College of Physicians and Surgeons, Chicago.

Dr. Evans served as Demonstrator of Pathology at the P. & S. College Chicago, from 91 to 94 and Professor of Pathology since that time. Dr. Evans is a very thorough instructor as well as a very popular one.

* *
*

The Quine Library has formally been presented with the late Dr. C. A. Logan's Medical Library, consisting of 490 volumes, by his widow, Mrs. C. A. Logan.

Dr. Logan, a brother of Gen. John A. Logan, was a graduate of the Miami Medical College, of Cincinnati, Ohio; practiced in Indiana, sixteen years in Kansas and then in Chicago. He served as United States Minister to Chili and was arbitrator between Chili and Peru after their war. After being four years in Chili, he went as U. S. Minister to Central America, serving four years, after which he was returned to Chili for another term of four years. He resided in Chicago from 1877 to '79.

After retiring from diplomatic service he traveled and later resided in California, where he died Jan. 1899.

It was Dr. Logan's interest in students which led Mrs. Logan to present these books where they can be an inspiration to others as they have been to him and we consider ourselves fortunate in having Mrs. Logan select our library as the one upon which to bestow so valuable a gift.

Clinical Department.

JOS. ZABOKRTSKY.

Dr. Lee had charge of Prof. Murphy's clinic Tuesday, June 5, and presented several interesting cases for diagnosis and performed a laparotomy for removal of dermoid cyst, a vaginal hysterectomy and a curettement.

CASE I. Mrs. C.—Civil state, married; race, Caucasian; age 32; occupation, housewife; nativity, Irish. Date June 5, 1900.

Family History: Mother living and well. Father died of appendicitis. Five brothers and sisters died in infancy; three living and well. No history of carcinoma or tuberculosis in the family.

Personal History: Had the usual diseases of childhood. Began to menstruate at 16 and has menstruated every three weeks; normal in other respects. Was married seven years ago. Had one child six years ago which lived ten days. Thinks she has had ten abortions since.

Present Illness: On June 23, 1899, was seized with intense, crampy pains in abdomen, went to bed and flowed profusely for five days, passing a great many clots of blood. Patient says she has not missed a menstrual period before this time. On July 15 she had another similar attack. Since then her menstruation has been regular and normal. About a year ago her abdomen began to enlarge and she was told that she was pregnant. It increased slowly in size until last month, when it began to decrease in size and she lost weight. She has occasional clampy pains in the lower abdomen.

Urinary Analysis: Color normal. Reaction acid. Specific gravity 1022. Albumen, no. Sugar, no. Microscopic examination negative.

Operation: Surgical preparation. Anterior and posterior walls of the vagina were retracted with Jackson retractors. Anterior portion of cervix caught with double tenaculum. Cervix dilated. Walls of uterine cavity curetted and an application of tincture of iodine made. A strand of iodoform gauze placed in uterine cavity which was removed 36 hours later.

CASE II. Name, Mrs. H. C.—Civil state, married; occupation, at home; age, 34; nativity, American. Date, June 5, 1900.

Family History: Father died when fifty years of age; cause of death unknown. Mother died when 56 years of age of apoplexy; three sisters and one brother living and well. Maternal grandparents died of consumption. Two aunts and one nephew on mother's side died of consumption. No history of tumor of any kind in the family.

Personal History: Had usual diseases of childhood. No other illness. Began to menstruate at fourteen and was always regular. Was married at 17 and has had three children, all of whom are living at the ages of 15, 13 and 10. Labors always prolonged owing to the early rupture of membranes. Several years ago a tumor appeared in the right inguinal region about the size of a hen's egg. At times it was very painful, causing the patient to "double up," as she expressed it. Tumor always disappeared when patient lies down. It was especially painful during last pregnancy ten years ago.

Present Illness. One year ago patient was seized with severe pains in lower part of abdomen and when she went to stool a considerable quantity of blood escaped from the vagina. She had menstruated eight days before. The next day patient had a similar experience, losing a good deal of blood. On third day she had no pain and no hemorrhage. The next two days were like the first two. She then began to improve and felt well until last April. Any irritation, however, would cause slight hemorrhage from vagina. About the first of last April these hemorrhages became more frequent and more severe but were accompanied with little or no pain. The bleeding nearly always occurred when the patient was urinating. Two weeks ago last Friday night patient had a very severe hemorrhage from the vagina, and also on the three following days. Two weeks ago some operation was done on the uterus; since then there has been no hemorrhage until June 4th when there was some oozing.

Examination: Digital examination disclosed a foreign growth involving uterus and a portion of vaginal. Uterus was enlarged and nodular. External os was large and patulus.

Diagnosis: Carcinoma.

Operation: Surgical preparation. Anterior and posterior walls of vagina were retracted. Cervix grasped with a volsella.

Mucous membrane of vagina incised at junction with cervix posteriorly. Tissues separated posteriorly to uterus with finger into peritoneal cavity. Iodoform gauze packed posterior to uterus into the peritoneal cavity. The rest of the vaginal mucous membrane was incised at junction with cervix and a dissection made into the peritoneal cavity anterior to the uterus, care being taken not to injure the bladder. Sound passed into the bladder and kept there during the operation. Iodoform gauze was packed into the peritoneal cavity through latter opening. Lower portion of broad ligament clamped on both sides and uterus drawn down. Now uterus was split beginning at cervix and uterus and appendages gradually delivered. Traction being made on either side of the split uterus and clamps being applied laterally close to uterus, and tissues divided with scissors. Uterus and appendages finally delivered. Forceps left in place with gauze packed over the ends in thr peritoneal cavity, the handles were wrapped with gauze. Forty-eight hours later—clamps and gauze were removed.

Case III. Name, Mrs. L.; married; nativity, Italian. Date June 5, 1900.

Family History: Negative.

Personal History: Negative.

Present Illness: Patient was unable to speak English and but little history could be obtained. Patient complained of pain in abdomen.

Bimanual Examination: A large somewhat movable mass found to the left of the median line and projected above the brim of pelvis into abdominal cavity.

Operation: Surgical preparation. Cervix dilated. Wall of uterine cavity curetted and tincture of iodine applied. Iodoform gauze packed into uterus and vagina. Antiseptic preparation of the abdomen. Median incision above the symphysis pubis about three and half inches in length through the skin and fascia. Recti muscles were separated and peritoneum opened between two tissue forceps, all hemorrhage being checked. A mass about the size of a cocoanut was found to the left of the median line. General peritoneal cavity walled off with laparotomy sponges. Tumor brought through the incision, but ruptured at this time and some thick opaque material escaped. Tumor found to have a small pedicle which was twisted three times. Pedicle clamped

the tumor was removed. Pedicle transfixed with catgut and ligated. Top sutured with fine catgut. Laparotomy sponges were removed and abdominal incision closed with figure of 8 silkworm gut sutures. Collodion dressing. Thirty six hours later uterine packing removed.

LIBRARY NOTES.

GRACE W. BRYANT, LIBRARIAN.

It is with pleasure and gratitude, that our Library has received as a gift from Mrs. C. A. Logan, the medical library of her late husband, Dr. C. A. Logan. Dr. Logan was a man of rare scholarly attainments and his carefully selected library can but prove a valuable acquisition. There are 490 volumes, a list of which will appear in a later issue of the PLEXUS.

We are always pleased when alumni of the College remember the Library. We have the following to thank for gifts during the last month.—Dr. W. E. Miller, class of 1887, 409 journals, Dr. F. S. Cheney, 1889, 90 numbers of Pediatrics; we now have a complete file of this journal. Dr. L. L. Beedy, 1899, McBride's Diseases of throat, nose and ear. Dr. L. H. Hukill, 1899, 200 journals. Through exchange with the Treadwell Library of the Mass. General Hospital, Boston, we have received a rare old volume, the first volume of the Boston Medical and Surgical Jour., 1829.

The members of the class of '03, at the suggestion of Dr. Eckley, have had their theses on the Anatomy of the Thorax, handsomely bound together in one volume and presented to the Library.

The librarian was sent by the College, as a delegate to the meeting of the Association of Medical Librarians, of which she is a member, held at Atlantic City, June 4th. Through this association our library, by means of exchange, has added during the last year 75 books, and many thousands of journals. These journals have enabled us to complete about 200 volumes, 130 of which we have just had bound. The meetings were very profitable; the exchange of ideas on library methods, the personal conversation on the subjects of wants and duplicates, and the discussion of various means of helping each other, sent each one home strengthened, and, if possible, more earnest than ever in the

work of making his own library the best and most useful.

Faculty articles in Journals during last month are as follows:

Dr. G. F. Lydston.—Medicine as a business proposition. *Jour. A. M. A.* May 1900, p. 1316.

NEW BOOKS.—DR. CASEY A. WOOD'S GIFT.

Amer. medical digest. V. 1—5. 1882, '86.

Amer. jour. medical sciences. V. 81—90. 1881, '85.

Amer. jour. of obstetrics. V. 19–21–22–27–28–30.

Burdett, H. C.—Hospitals and asylums of the world. 3 V. 1893.

Case of the Emperor Frederick 3rd. 1888.

Centralblatt für chirurgie. 4 v. 1892, '95.

Centralblatt für gynäkologie. 4v. 1892, '95.

Centralblatt für innere medizin. 2v. 1894, '95.

Centralblatt für klinische medizin. 2v. 1892, '93.

Froriep, L. F. von. ed. Neue notizen aus dem gebiete der natur and heilkunde. 24 v.

Homeopathic jour. of obstetrics. V. 1. 1879.

International medical annual. 3v. 1890, '92, '93.

New England medical gazette. 4 v.

New York medical jour. V. 1—8. 1865—'69.

New York medical record. 32 v. 1873—'91.

New York jour. of medicine. 5 v.

New York state medical society. Transactions, 20 v. 1868—1894.

Pitha and Bilbroth. Handbuch der Allgemeimen and speciellen chirurgie. 13 v.

McBride, P.—Diseases ofthroat, nose and ear. Ed. 2, 1894. Dr. L. L. Beedy, donor.

Osler, William.—Practice of medicine. Dr. J. T. Milnamow donor.

Alumni Department.

OFFICERS OF ALUMNI.

President—J. A. Wesener, 103 State St., Chicago.

Vice President—A. K. Purdy, Milwaukee, Wis.

Secretary and Treasurer—Thomas A. Faithe, 103 State St., Chicago.

'85. Dr. A. W. Dunning, of St. Paul Minn. is taking a post graduate course at Johns Hopkins University. He is taking medical clinics under Drs. Osler, Thayer, Fletcher and Neurolgia work under Professors Barker and Thomas.

'89. Dr. F. W, Rodgers of Hartford, Wis., was a recent caller at the PLEXUS office.

'92. Dr. Edgar R. Hawley, Medical Director of Ill. Life Ass'n. is located at 134 Monroe St. Chicago.

'94. Dr. H. L. Stevens of Floris, Iowa, was in the city recently and called on the PLEXUS.

'95. Dr. A. F. Lempke goes to Johns Hopkins as an assistant of Dr. Osler.

'96. Dr. J. R. Hudson is dispensing medicine to Co. H. 72th, infantry U. S. V. at Manila, P. I.

'99. Dr. T. A. Tieken has received an appointment as Fellow in Pathology at Rush College, and is to be with Dr. Hektoen.

'99. Dr. C. E. Sisson has accepted a position in the Insane Asylum at Elgin, Ill. Dr. Sisson has been quite successful as a surgeon since graduating.

'99. Dr. F. P. Ramsey is located at Rapid City, Mich.

'00. Dr. E. M. Hurst has located at Cloverdale, Ind. We hope to hear of his being "in clover."

'00. Dr. R. R. Hampton is interne in Illinois Charitable Eye and Ear Infirmary, Chicago.

'00. Dr. Wm. J. Nier who was quite seriously ill at the West Side Hospital has gone to his home.

'00. Dr. Theodore C. West has gone to Cape Nome, Alaska.

'00. Dr. C. A. DeVoe, Lamartine, Wis.

'00. Dr. Arthur H. Geiger, Interne, German Hospital, Chicago.

'00. Dr. G. J. Laben, Cor. 22nd and Dearborn Sts. Chicago.

'00. Dr. O. B. Dunham, Interne, Englewood Union Hospital, Chicago.

'00. Dr. J. E. Westerlund, Orion, Ill.

'00. Dr. E. E. Martin, Gambril, Iowa.

NEWS ITEMS.

School begins October 1st.

The faculty gold medals were awarded to—Edward Arthur Gansel, '00; John William Birk, 01: Judson Melvin Meyers, '02; George F. Blough, '03.

The base ball nine of the college defeated the Harvey Medical College nine by a score of 8 to 13 and were defeated by the Illinois College of Medicine by a score of 8 to 12.

Frank R. Bordan, who was a student here during 1898-99 and dropped out of school on account of his father's illness, will return to school in the fall.

Miss Grace W. Bryant enjoyed a week's leave of absence, attending the librarians' department of Am. Med. Ass'n at Atlantic City, N. J.

Dr. Bayard Holmes, professor of surgery has returned from Paris, France, after a few months' stay.

Our genial assistant professor(?) of anatomy, J. S. Brown is, we are informed, about to resign his position as obstetrician(?) on July 1st. The coming class will be at a great disadvantage because of Dr. Brown's intentions but will, no doubt, on hearing of his great efficiency in this line, petition him to again resume his carrying of the manikin.

Kittler and Jennings are still fighting hard for Dr. Davison's prize.

If our champion carom-player would leave the board alone and put more time on his anatomy he would probably be able to locate the surgical neck of one of the long bones

Some of our great physicians have become famous in a day through a timely invention. The class of '02 will, in future years, point to one of their members whose invention of a "machine" is about to revolutionize one branch of medicine.

Severson still thinks he can play ball.

McConville is surprising us all this year. Meyers will have to look out for his laurels.

Our class comedian, French, is still reading the jokes from that Missouri paper and perpetrating them on the class.

P. Gad does not seem to be doing as neat a dissection as formerly, probably from lack of time or nervousness on account of his very efficient assistant's presence. We note Dr. Davison's frequent excuses for the incomplete dissection and recognize the cause.

A great many of the boys are sorry they did not review their course in histology. Could our latest "co ed" be the cause.

The graduating exercises of the West Side Training School for nurses occurred Thursday evening. June 14th, in the College of Physicians & Surgeons. There were 13 graduates but that number may not be unlucky for the nurses but we hereby give their patients' fair warning. Miss Brophy's valedictory address was most brilliant and witty and a credit to the author. THE PLEXUS congratulates the new additions to the ranks of their noble profession and wishes well each and every member of the class.

From seeing Whyte's work on two different occasions, we would prefer that he would anesthetize our dog than our baby.

CHARLES DAVISON, M. D.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. JULY 20th, 1900. NO. 3.

*ADDRESS.

CHARLES DAVISON, M. D.

LADIES AND GENTLEMEN:—We are living in an epoch making time in the history of medicine and surgery.

The past twenty years, a period that you and I have seen, has been pregnant with new ideas, and productive of new and better results.

Through the aid of the medical laboratory, the physician has arrived at an era of positive diagnosis.

Through the application of the steam sterilizer the surgeon has reached an era of positive results.

The surgeon can say, "Let me control the conditions and environments of my operation and I will show you exact results."

Along with this era of precision, of exactness and positiveness in medicine and surgery has come that handmaiden of medicine—the trained nurse.

About twenty years ago a band of noble women conceived the idea of a school in Chicago for the systematic training of young women for nurses, teaching them in the class-room and drilling them in the hospital wards, at the bedside, in the practical methods of caring for the sick.

---

*Delivered at the Graduating Exercises of the West Side Hospital Training School for Nurses, June 14th, in Clinical Amphitheater; College of Physicians and Surgeons Chicago.

The school founded by those women was a success. Its influence has spread until every hospital in Chicago has its corps of trained nurses, scientifically, deftly, tenderly caring for its patients, caring for them with the same skill and ability and sympathy whether they be paupers in Cook County Hospital or millionaires in some of the elegant private hospitals in our city.

Out of the foundation of that training school has grown the system of visiting nurses. That system by which the sick poor are looked after in their own homes by and under the direction of graduate nurses. Mothers are taught how to nurse and feed, clothe and care for their families in a manner that much suffering is averted and many lives saved.

The founders of that school have done much for the people of Chicago. Their names should be written high up on the roll of honor among the good and great of our city. Their names should be engraved on the scroll of fame among the bravest and noblest and wisest of our land.

Their names should be and are graven deeply into the hearts of the common people of Chicago, the masses who have had suffering and death invade their homes, who have felt and seen the careful, conscientious work of the trained nurse.

The stripes will be a monument to those leaders as long as stripes are the uniform of the trained nurse.

The school has prospered, its graduates are known and respected in every clime where scientific medicine is practiced.

Tonight its youngest sister—The West Side Hospital Training School for Nurses presents its third class for graduation.

These young women have been selected from among many applicants, they have given evidence of a thorough English education by written and oral examination, before admission to the school. They were chosen because their physical health and strength were such as to enable them to stand the hard work in the wards in addition to the exacting duties of the class room while students, and when graduated to endure the even more exacting and exhausting duties by day and by night of private nursing.

They have given evidence of good character and previous correct life.

These young women passed a probationery period of a month

in the school, during which time they demonstrated that they had the indescribable tact and deftness and general make-up so necessary to the success of a nurse. They had the persistence and grit to overcome all obstacles. That they were women in the highest and best sense of the word. And let me tell you that the trained nurse body is made up of women, of women of lofty inspirations who yearn for something nobler and higher and better. And let me tell you that the trained nurse body is recruited from the flower of our American womanhood.

This class of nurses, for two years, has been drilled in the class room by lectures and recitations in scientific nursing, and drilled at the bedside in its practical application.

How well this has been done, I will leave to be decided by the friends who are familiar with the work of the West Side Hospital. I will leave it to be judged by the future work of this class as the years go by. I congratulate the public on the graduation of this class. When in the course of human events, sickness may shadow the home and the danger of death may seem near, I congratulate you that there are these thirteen more trained nurses at your service.

Nurses of the graduating class I congratulate you too on the completion of your student life and student work.

You are to occupy a new place in life with new responibilities, not only to yourselves, but to your profession and to the public.

During your training, others to a certain extent have thought and planned and provided for you. Now you must do it for yourselves

During your training others have looked after your physical necessities, have guarded your bodily health, have watched your moral and social environments. Now you must do that for yourselves. That you will do it with credit to us and to you I am perfectly satisfied, perfectly willing for the future to decide.

In your future work you will owe a separate and distinct duty, to your patient, to his physician and to yourself.

Your first duty is to your patient; his life is in your hands; everything must be made subsidiary to his wellfare; nothing that is necessary to aid in his recovery must be too hard, too menial, too irksome for you to do. No days are to be too long,

no nights are to be too sleepless for you when a human life is to be saved.

The personal relationship between nurse and patient is a delicate one, frequently requiring intelligence, tact and firmness. Retain your dignity on all occasions and your patient and his family will respect you. Yours is one of the most rigo rous professions open to women, but it is the noblest and best. Make it the cleanest and purest.

To the physician in charge of the patient you owe absolute loyalty. He should have your confidence so far as the patient and his surroundings are concerned. You should work together in perfect harmony. The physician is responsible for the medical treatment of the patient; you should not question his methods; he is supposed to know more about medicine than you. He takes the responsibility, he receives the praise or odium, not you.

Follow his directions accurately. Always keep a written record of your work both for the physician's protection and your own.

You must not make mistakes; a mistake may cost a human life; you are on your honor as a trained nurse.

To yourself you owe another and different duty.

The duty of self protection.

Husband your physical resources.

You must make every effort to retain your physical health to retain your strength and vitality, for just as your vigor and endurance diminishes, so your usefulness as a trained nurse decreases. Live as regular a life as your vocation will permit.

Get daily open air exercise when possible.

Eat plain food at regular intervals.

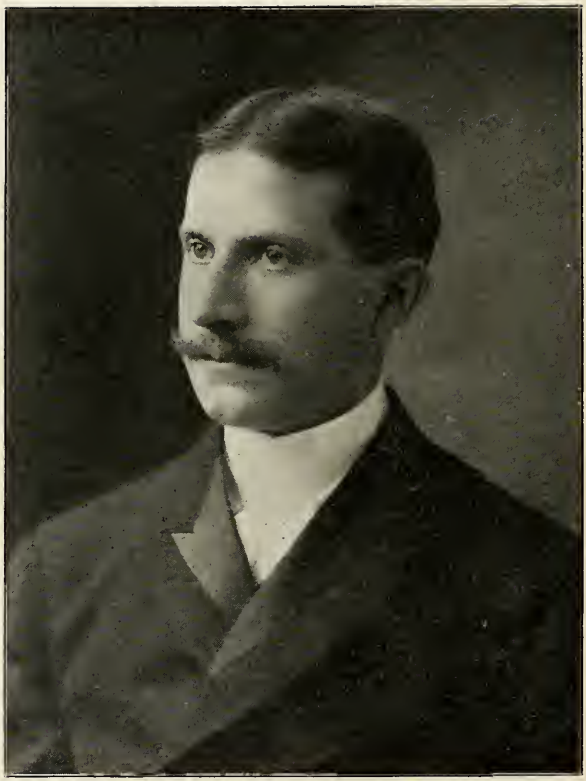
Get regular sleep when it can be done without detriment to your charge.

Don't worry; don't fret.

A charge from me to this class would be incomplete without reference to finances. "The laborer is worthy of his hire."

I am told that ten years is the average effective working life of a trained nurse.

You have got ten years to make your stake. Give of your time to charity with as liberal a hand as your circumstances will permit, but give it with judgment.



DANIEL N. EISENDRATH, A. B., M. D.
Professor of Clinical Anatomy College of Physicians and Surgeons Chicago.

Charity properly placed is the kindest offering to humanity but improperly placed tends to pauperize and degrade the recipient.

When you give to charity, give it as charity. When you earn money collect it. But when you are all through, you will remember as your richest fee the grateful tears of some fond mother, whose loved one you have saved to her.

Fulfill your every obligation in life; do your duty and do it well; and when in the course of time you lay aside the stripes, may your character be as clean and pure and spotless as the uniform of which we are all so proud tonight.

DIFFICULTIES AND DANGERS OF ANESTHETICS.

DANIEL N. EISENDRATH, A. B., M. D.

Professor of Clinical Anatomy, College of Physicians and Surgeons.

Ever since the first deaths resulting from the administration of ether and chloroform, there has been considerable discussion as to the manner in which they cause the same. One of the most important contributions was that of the Hyderabad Commission, which concluded from its experiments on animals that chloroform kills by its effects on the respiratory system. Mellish believes that it exerts its bad effects primarily upon the circulatory system, an opinion which is supported by Leonard Hill. Practically all observers agree that chloroform causes lowering of blood pressure at all stages of the anesthesia. Ether produces a slower fall than chloroform. Whether the paralysis of the respiratory precedes or follows that of the circulatory systems, is of but little practical importance, for the interval between them is so slight as to be almost imperceptible. The writer has in some cases observed a cessation of respiration before that of the heart's action, and in others the reverse condition. Leonard Hill has shown that there are two kinds of syncope, a primary and secondary. The former occurs in the very earliest stages, the latter later. It may be due to fright or other psychical influences. In some cases there seems to be no apparent cause. Respiratory difficulties may be spasmodic, asphyxial or paralytic. The two former occur more frequently during ether than chloroform anesthesia. The last named danger is far more frequent after chloroform. When this takes place, the respirations gradually

become slower and more shallow, the color of the face and lips becomes grayish, the pulse imperceptible, and the pupils widely dilated.

The group of symptoms in which the heart first shows the effects of an overdose of the poison (secondary syncope) differs but slightly from the above, and the anesthetist who closely watches the respiration, color of face, pupil and pulse of the patient from the time the anesthetic is begun will note even slight danger signals quite early. It has been the habit of the writer in his own cases and when instructing others, especially when chloroform is to be administered to call attention to the following points:

Prophylactic. Remove all foreign bodies from mouth, also all constricting neck or waist bands. Talk reassuringly to the patient, or divert their minds by having them count slowly up to 50. Do not permit any loud talking or noise of preparations to be heard by the patient. Do not begin to remove dressings or prepare the field of operation before the stage of relaxation. Examine the heart, lungs and the urine before every anesthetic. (This will be referred to later). Note the size of the pupils, the character of the pulse in regard to pressure and frequency, and watch both pulse and respiration, and the color of the face during the entire operation, keeping the hand on either radial, temporal or facial arteries, as the engineer does his hand upon the throttle. The writer has been able a number of times to guard against a syncope by noting the manner in which the pulse decreased in frequency and force. The pupil is at first dilated moderately, then somewhat contracted, responding, however, to light, but when it dilates again, or, in other words, the secondary dilatation, with failure to respond to light, it is one of the earliest symptoms of syncope. The anesthetist should pay absolutely no attention to the operation, and should not be changed, if possible, during operation.

The curative treatment of the immediate difficulties and dangers in the milder forms, such as spasm of the glottis, is to remove the anesthetic (usually it is ether which causes this). Forceps of the kind used by the laryngologists, with pieces of cotton will easily remove any mucus which has accumulated above the larynx and causes cyanosis. This is best done by placing the patient's head (if it has not previously been so) on its side direct-

ly upon the table. At times it is necessary to force the jaws apart with a special (Heister) gag. It is seldom necessary if care is taken to hold the jaw up and forward, to use a tongue forceps.

For the more severe forms of danger, such as sudden heart respiratory failure, we should have some system or order in which the various methods or remedies shall be applied. The writer usually employs the following mechanical means first, for there can be but little object in giving cardiac stimulants before there is a circulation to carry them to the heart.

1. The method of König, or massage of the heart, which I have employed eight times with startling results. This consists in virtually, by a number of rapid pushing movements with one or both hands, exciting a ventricular contraction, and thus preventing the paralytic dilation of the heart from taking place. This method was first suggested by Professor König, and is but little known in this country. As soon as the heart or breathing has ceased, the operator by rapid "punchings" with the flexor surface of the half-closed hand, without lifting the latter from the chest wall, seeks to start up a contraction of the ventricles. I have saved three patients by this method alone during the past six months. It is virtually a shaking-up or massage of the heart. In a dog upon whom I performed thoracotomy, the heart's action ceased as soon as the thorax was opened. The König method was employed, while one hand was kept over the heart (from the interior of the chest). The effect of this shaking-up of the heart through the external jolting was remarkable. The organ began to pulsate and continued to do so for several minutes. minutes.

2. The next method, (Laborde) and one which can be carried out simultaneously by another assistant, consists in mechanically exciting respiration by the so-called pharyngeal reflex, by making rhythmical tractions upon the tongue. Insert a tongue forceps and pull the organ by its tip out of the mouth as far as possible, about sixteen times a minute.

3. As soon as possible, raise the foot of the table say one half to two feet, or bring the patient's head over edge of table, permitting it to hang down. At the same time, begin with artificial respiration. Have two assistants (one on each side), bring a semi-flexed arm down upon the lower portion of the chest, com

pressing same, then raise arms above the head by extending them and bring them to the chest wall again.

4. By this time either respiratory or circulatory paralysis will have either become permanent or temporary. If the latter, a few feeble pulsations can be felt and an occasional shallow breath be noticed. Now, an Amylnitrate pearl can be broken and its contents inhaled. Strychnine in $\frac{1}{30}$ grain, and digitaline in $\frac{1}{50}$ grain doses can be given hypodermically, Later whiskey, atropine, ammonia, etc.

5. Bleeding from a large vein, if the patient is plethoric, or the subcutaneous injection of a quart of normal (0.6 per cent.) salt solution, if there is any suspicion of a combination of syncope, and hemorrhage, is extremely valuable and rational.

6. Acupuncture of the heart has been tried as a last resort in two cases by McArthur, with an encouraging result. Trachheotomy, stretching of the sphincter, irritation of nostril, and electricity are of doubtful value.

To sum up. 1. Massage of the heart (König). 2. Rythmical tractions of the tongue (Laborde). 3. Artificial respiration. 4. Cardiac stimulants.

We should persist in our efforts, even in the most discouraging case, at least half an hour.

In regard to some of the after-effects or dangers of anesthetics, many can be avoided by proper regard to their prevention. Before every anesthesia is begun the urine should be carefully examined for sugar, albumin and casts. This will only require a few moments, especially if a centrifugal apparatus is at hand, and may spare the operator a great deal of chagrin if a patient whose relatives he had assured that there was practically no danger should die within forty-eight hours of uremia. It has been shown conclusively by a number of investigators, both through experiments on animals and clinical observations, that both ether and chloroform have an injurious effect upon the renal parenchyma. My own observations in 110 cases about equally divided between chloroform and ether have been confirmed by a number of others. They were as follows: Ether and chloroform will cause albumin and casts in small amounts and number to appear after they have been administered, to patients whose urine during repeated examinations was previously shown to be normal. This will occur more frequently

after ether. Upon the diseased kidney it (ether) has a decidedly more harmful action, causing in some cases acute suppression of urine, uremia and death. Chloroform, if administered during an operation or obstetrical case, as shown by Fraenkel, for a period of three hours or longer, will cause fatty degeneration of the renal cells and uremia. On the diseased kidney chloroform has a far milder action than ether. Both in cases of diabetes will frequently increase enormously the sugar, or cause sugar to appear and have a bad influence, e. g. gangrene on the wound in cases of latent diabetes.

Another dangerous after-effect which can be avoided is pneumonia following ether anesthesia. A careful examination of the lungs will quickly aid us to diagnose a bronchitis or emphysema. Such persons bear ether poorly and should, if the heart permits, be anesthetized with chloroform. In regard to the latter organ, patients with heart trouble should be anesthetized either with ether or the A. C. E. mixture. In many hospitals abroad and in the East, the anesthetist is either a paid assistant, who remains for years, or is assigned to this task as an interne for many months. Slips are filled out for each anesthesia, stating condition of the heart, lungs and kidneys before operation, etc. This is not impracticable even in small hospitals, and saves many a life.

I have tried in the above to give a brief outline of the causes of syncope during anesthesia, their treatment, and some of the after-dangers or effects. Ether, with the exception of its bad effects upon the kidney, is by far the safest anesthetic. Chloroform kills quickly; ether slowly. The dangerous symptoms of the former are far less amenable to treatment than those of the latter. Children respond more quickly than adults to efforts at resucitation.

A careful examination of patients is absolutely essential. In serious cases the urine should be collected for several days, and twenty-four hour specimens examined, especially in renal operations or laparotomies. Do not give one anesthetic, be it chloroform or ether, indiscriminately to every patient. We should consider age, condition and nature of operation. I append an excellent list, compiled by J. Frederick Silk, an English authority, on anesthetics, which I have found very useful to remember.

1. Age. Under three years—chloroform all through. Between 3 and 12 years—A. C. E. mixture. (Alcohol, 1 part; chloroform, 2 parts; ether 3 parts).

Between 12 and 60 years—ether.

Over 60. Induce with A. C. E. mixture, increasing the proportion of ether in long operations.

2. Condition of patient. *In fat and plethoric*—induce with A. C. E., and gradually increase the proportion of ether in long operations. *In acute or very recent lung troubles*, give chloroform all through.

In chronic lung troubles (bronchitis or emphysema), A. C. E. all through.

In organic heart disease. If not sufficient compensation, e. g., pulmonary edma, A. C. E. or chloroform. If compensated, ether.

Marked atheroma. Induce with A. C. E., and increase ether proportion with long operations.

3. Nature of operation.

Intracranial—chloroform or A. C. E.

On tongue and mouth—induce with A. C. E. Change for chloroform when operation begins.

Operations on head and neck—begin with A. C. E., increasing proportion of ether in long operations.

On larger joints—always ether, if possible.

Abdominal—do well with with ether, but many prefer chloroform.

Rectal and genito-urinary—ether.

The writer can agree heartily with most of the above, and would add under No. 2, kidney disease, preferably chloroform, or A. C. E.

103 State Street.

VALEDICTORY ADDRESS.

Minerva E. Brophy.

Faculty—Friends: We, the class of 1900 of the West Side Hospital Training School for Nurses, have the pleasure of coming before you tonight after two years of patient work and study.

When our first hard month was over, when we were "only a probationer" and then what was it to be "stripes" or home?

Members of Graduating Class West Side Training School for Nurses.

Fortunately we thirteen had the required education and passed the entrance examination and knew our place.

We never preceded our seniors down the corridor, no matter what the haste; stood when spoken to, no matter how tired; talked only when talked to, no matter what we thought; a great deal sometimes, and were not "simply unsquelchable" as we had heard it rumored some probationers were, and have found to be, since we were senior nurses.

Gowns have not been fashioned that could bring more pride to our hearts than our seersucker stripes. Then with our snowy white apron and cap added, our happiness was complete.

It has not all been a dream since then. A little more than arranging a bouquet of flowers or perhaps moistening fevered lips. Yet despite anxieties, discouragements and failures, these two years have been the happiest and most profitable in all our lives. "In the hours that brim with memories with pleasures past beset."

"There are still some few little things we sooner would forget."

The first awful month of night duty, perhaps at the same time our first lessons in anatomy, going on duty with the thought still fresh in our minds of the vivid picture of ghastly figures, and making our rounds in the wee small hours of morning when the stillness was appalling, we would step to some bed and listen with our heart scarcely beating to see if the patient were really breathing. Were we glad to see the first gray streaks of dawn, to say one less night, and what peace it brought to our mind when we read "and there shall be no night there."

We have learned many a hard lesson since the day we were permitted to don a nurse's uniform. What have we lost? What have we gained? Our homes with their many comforts have been given up for the discipline of a training school life.

Few know what that means. It means this: You are ready at any moment to go on duty wherever or in what capacity needed. Perhaps the half day you were to have, you planned a pleasant afternoon with friends, an emergency comes in, special at once. You are sent on case.

Or you have an afternoon—you go off in quest of pleasure and hurry home to be in by ten o'clock, tired and glad to have a nice comfortable bed to rest your weary self. A knock at your

door. You are wanted at hospital at once. With heavy heart you obey orders. We have been told it all comes in in the training. Surely it does.

Now what has two years of earnest devotion to our chosen work done for us?

We have by this struggle become competent to take care of and minister to the sick, which is surely a God-given privilege. How a nurse is looked to in time of great sorrow, not only to do all that is possible for her patient, but also comfort those who perhaps question Divine will.

"If word of mine another's gloom has brightened
Through my dumb lips the heaven sent message came,
If hand of mine another's task has lightened,
It felt the guidance that it dare not claim."

It has been said there is no work for women more noble and enobling than the work of a nurse. The true comfort and satisfaction we feel after even a trying day, for trying days we surely have, when someone's pain has been lessened or perhaps we have assisted at a serious surgical operation, the result of which would be a failure unless our work has been thoroughly and honestly done.

Hospital discipline has also left its imprint upon us. Punctuality in all things demanded therefore, is part of us. Eyes trained to be watchful, quick to see, heart ready to feel, hands willing to act. In other words we live "that we may do good."

As we go out on this life away from the Alma Mater we must not feel as did the college graduate who stood on his porch at home one starlight night and said, "Twinkle, twinkle little star, how well I know just what you are." A few years later after coming in contact with the outside world he looked on the same starlit heavens and said more thoughtfully, "Twinkle, little star, how I wonder what you are."

To the class of 1901 whom we leave behind amid the trials and tribulations and I must say "joys," peculiar joys perhaps of hospital life, we wish you every success in your chosen work.

"One by one thy duties wait thee,
Let thy whole strength go to each,
Let no future dreams elate thee,
Learn thou first what these can teach."

Miss Davis who led us into the mysteries of surgical work, cheering us — reprimanding us yet through all loving us we

truly thank you, and wish you all success in charge of those under your guidance.

Staff doctors, in behalf of the class of 1900, I wish to thank you for willingly giving us so many hours of your valuable time for lectures and demonstrations. We have all appreciated the foundation for our success which you have helped to lay, and the more than friendly interest you have taken in our welfare.

To the class of 1900—during these two years of constant companionship, we have been happy together. "Close are the links that unite us, links that are hollowed and strong," and it is with a feeling of deep regret that we must soon bid each other farewell.

But this is the hour we have longed for, and even though mingled with regret, I say with a full heart, God be with you.

CLASS SONG.

HEDWIG MARIE LEWKE.

Dear old days of work and study,
Sad at heart we see you go,
For the trials which oppressed us
In the flitting lighter grow,
Miss Davis so kind and patient
Cheered us up the rugged hill,
Now we reach the frowning summit
And look down to love her still;—

Love her for the quiet patience,
For the smiles which made us bold,
To attack the highest barrier
And its mysteries unfold.
Even you, most grim of tyrants,
With cadaveous face and mien,
We forgive those gruesome lectures,
Dr. Eckley we esteem!

You conjured not forth the wrinkles
With your ghastly horrors grim,
But our dreams you oft made wretched
And our eyes with weeping dim.

And "mit fractures beeg and leetle,"
Fractures great and fractures small—
Dr. Wiener, 'tis a wonder
We're not fractured one and all.

Dr. Barrett—mud—obstetrics
In our minds are fastest chums.
We adore thee, grave preceptor,
But we dislike rain and slums.
In our work much was unpleasant
As night-duty, quiz and bell,—
And the horrors of examinings
Long will in our mem'ries dwell,

Did you ever think, professors,
When you with majestic flight,
Soared aloft in your proud glory
And rejoiced in your might:
That our tired heads were aching
When the lecture was begun,
That our brains were crammed to bursting
Long before the theme was done?

But we offer thanks, dear teachers,
For the kindness you have shown,
Often mindful of our comfort
And forgetful of your own.
You have made our stay at clinic
An oasis fresh and green,
Where in after years our fancy
Oft may wander back to dream.

It has come, the hour of parting,
The last handclasp, the farewell,
Speed thee forth our stately vessel,
In your midst may joys e'er dwell,
And may we, dear classmates, ever
In the path which beckons now,
Seek to bless the world we enter,
Twine fresh laurels round its brow.

WAGGLE DANCE

DENTAL JURISPRUDENCE*

By C. E. Milroy, A. M., LL. B., of the Chicago Bar.

The subject of dental jurisprudence is a comparatively new title in the law. Nearly every lawyer would tell you there is no such science as the science of dental jurisprudence.

The subject has been discussed in a fragmentary way from time to time in various law journals and in the magazines and periodicals of your profession but, so far as I have been able to discover, it has never had the benefit of anything like a separate and thorough treatise except in one work on that subject.

The Philadelphia lawyer is supposed generally to represent the highest development of scientific attainment and ability in the legal profession.

If analogy holds good, the work I speak of should occupy a high rank and be well worth the attention of the dental profession, as it is the work of a Philadelphia dentist.

I allude to the work of Dr. Rehfuss, of Philadelphia, a gentleman of eminent professional standing in the great city and well known to your profession. I have examined the work with some care and am indebted to it for many and, to my mind, valuable suggestions and doctrines. It appears to be written with a fair degree of accuracy with regard to the legal propositions it advances.

The definition Dr. Rehfuss adopts in defining and limiting the field covered by his subject is that commonly employed in defining medical jurisprudence; the science which teaches the application of medicine in all its branches to the purposes of the law; substituting the word "dental" for "medical."

Chapman in his work on medical jurisprudence employs a definition which, to me, appears more satisfactory for the purpose at least of this evening's discussion. He defines medical jurisprudence as the science of medicine considered in its relation to the law. This appears to more satisfactorily and more correctly define the limitation of the subject. I apprehend that the science of dental jurisprudence will receive greater attention and investigation in the colleges and institutions of learning of your

*Address delivered before the Odontographic Society of Chicago March 19, 1900.

profession as yourselves as well as the public generally become aware of the value of your profession in relation to the law and the important place it now occupies in reference thereto, as shown by the decisions of the courts.

Its want of recognition is due, in great measure, to the comparatively recent dawn of the dental science. Sixty, or even forty years ago, the science of dentistry was, I understand, but in small measure to be compared to dentistry of the present day. In former times and for long ages the sufferer from irregularities or disease of the denture was turned over to the tender mercies of the barber, jeweler, or even the blacksmith, and it seems to me I have even in my own time heard the name of the carpenter mentioned in connection with the teeth. The first recognition of your profession on the English statute books was in an act passed by parliament in time of Henry VIII, which provided that henceforth the barber was prohibited "from occupying any surgery, blood letting or other thing belonging to surgery, draw-of teeth only excepted." It was not until the year 1878 that the English statute afforded any reasonable or adequate protection and provision for the science of the dentist.

In this country it received no recognition of any value until about the year 1840. About the year 1860 the legislative records here began to be prolific in statutes regulating dentistry, and from that time on to the present the subject has received at the hands of our numerous law making bodies much attention, wise and otherwise, until now the statutes of the various States present all degrees of regulation, from the most lax to the most stringent, and all shades of opinion in the decrees and decisions of the judiciary, from the decision in New Hampshire that all such statutes are void and unconstitutional as in restraint of civil liberty, to the decision of the Supreme Court of Indiana that the legislature has plenary power in this exercise of police jurisdiction. Both are wrong. It is a subject which demands *reasonable* regulation, and that only. The question for the law to decide is merely whether a man has the requisite knowledge and skill to practice your professisn. If so, the law should afford him every means and protection in so doing. It is questionable whether in any of these laws regulating the license to practice any trade or profession, an essential requirement should be a diploma showing years of study at a recognized college. Such a course

in effect draws a line between rich and poor and places money too much on a par with brains. It is a delegation to a college of the duties which the examining committee should perform. However, the question of convenience, which is also a rule of law, may have some weight in this connection, as the law adopts the most convenient method.

It appears to me that the statute of this State makes a fair and just provision. In this State any man who can demonstrate to the Board of Dental Examiners that he has the requisite skill and learning must be admitted. About the only defect which appears to me in the statute is the extension of the right to practice dentistry in the medical profession.

I think the average "doctor" is about as well qualified to follow your learned profession as a lawyer would be after about three weeks spent in studying dentistry. It is a subject as to which, in these times, the physician is about as much a layman as any one else.

The national law also needs some regulation and change with regard to dentistry. Patents are allowed and exist with reference to many and the most important processes and appliances pertaining to your profession. These patents may be divided into three classes—surgical, surgical-mechanical and mechanical.

Surgical patents may be illustrated by a patent which was allowed for a process of removing the nerve by directing a stream of volatile liquid against the tooth until the nerve became benumbed or deadened and so removable. Also by patents for engrafting of teeth. Surgical-mechanical patents are illustrated by the various patents issued for devices and methods of filling and restoring the form and appearance of the teeth. Mechanical patents consist of the monopolies granted for permanent and removable bridge work, hollow crowns and other inventions and devices of prosthetic dentistry.

All this is wrong and illiberal. It does some good to a few in a financial way, and doubtless affords some encouragement to industry and research, but pecuniary reward is hardly a worthy object for dental scientists.

When a patient comes to his dentist for treatment the practitioner should not be compelled, after he has investigated the needs and requirements of the case in hand, to turn to an elaborate set of pigeonholes and examine a multitude of patentee

licenses to see whether he has the right to apply the remedy the case indicates. On the contrary, his hands should be free and unfettered to use and apply, to the best of his skill and ability, the very best means that the research of his brethern afford. You should proceed without delay to place yourselves on the broad and liberal plane occupied by the medical profession, where the labor of one is for the benefit of all, both of his brothers and of humanity at large. The time has passed when the dentist should seek to keep to himself the learning of his profession as his personal property.

I infer from the reading of your minutes this evening that something of this character is being urged in congress by this society. The Central Dental Association of Northern New Jersey recognized this need some years since and formulated a bill to be presented to congress for that purpose. I think such a law would be constitutional. The congress is not restricted, like the State legislatures, from passing bills impairing obligations of contracts. It has the right to abrogate all contracts, so if a patent is a contract it can be lawfully annulled. If it is personal property it can still be done away with, as the congress may take what property it will for the public welfare, the only constitutional restriction being that the owner must be compensated, i.e., the property be taken by due process of law.

Considering the rapid and great importance of the development of your profession the demand for such legislation is urgent.

You will no doubt be called on by the courts from time to time to testify in various matters as dental experts. The subject of compensation for such service is one of much importance. It seems to me it is no little sacrifice for men of your calling to be dragged ty the court room and compelled to loiter about for several days and then go through the ordeal of rigid examination and cross examination for $1.10 per day, when your only offense is that you have become eminent in your profession.

This question was put to the test in Dixon vs. the People in this state a few years since. The court refused an expert fee (basing its decision against the proposition of taking property without due process of law) on the ground that property cannot be predicated except of tangible objects and rights growing thereout. It would seem that with regard to most people, both

in the judiciary and elsewhere (though there may be possible exceptions), it may be said that they possess tangible brains and that the rights pertaining to a brain which had been educated at the expense of much toil and sacrifice might therefore be said to be property and should not be taken without compensation for the benefit of others. Such a proceeding appears much like legalized robbery. Such rights are as much property as are the rights pertaining to the dollars of a man who runs a department store or packs pork at Bridgeport. The treasures of Pallas are worth the gold of Midas.

The law in England allows expert fees. Here we have not yet reached that point. As to the manner of testifying, the experience of a certain small boy is a good example for all witnesses. A lawyer, who was cross-questioning him and getting more evidence than he wanted, asked the boy if he had been instructed what to say. The boy said yes. On further inquiry, he said that his father had instructed him to tell the truth as nearly as he could remember without regard to any badgering lawyer. If you do not know, do not fear to say so. If driven too far you can, as a last resort, console yourself with the aphorism that "a fool may ask questions a wise man cannot answer."

I do not mean to say that my legal brethern are mentally deficient, but, if a fool can ask unanswerable questions, much more may he, whose business is the interrogation of witnesses, ask questions beyond the power of wise men to answer.

The evidence of the dentist has proved peculiarly efficacious in such questions as identification of the living and dead. The denture, above all else of the animal tissue, withstands the tooth of time and active destructive agents, such as the attack of fire or chemicals. The evidence of the dentist has proved of greatest value in such cases as the Webster-Parkman murder, in the identification of the body supposed to be the murdered Mason Morgan and of Dr. Cronin's remains. Also in freeing persons supposed to be Tascott, accused of the Snell murder. In all these cases the dentist's evidence turned the scales of justice.

In reference to compensation for your services in exercise of your profession the law holds you are entitled to remuneration in proportion to the value of your services, or on your contracts therefor, the same as any other professional man or person who renders service or a thing of value to another. Owing to the

peculiar early history of your profession, the question of fees does not present the same historic features as in law and medicine. In these ancient professions in olden times the fee was an honorarium. It was considered that the benefaction bestowed gave rise to sentiment of gratitude and moral obligation more than sufficient to insure proper remuneration. That it no more needed the sanction of law than did the enforcement of filial duty. But either human nature has deteriorated in the propensity to be subject to the obligation of gratitude and the memory of benefits bestowed, or else the old idea was a mistake. Now all professional men are by law entitled to their pay the same as the merchant, the laborer, the manufacturer.

I know your primary aim is not the almighty dollar. Men who practice the liberal professions have higher aims. When one passes the point where means of substance is assured the dollar is a secondary consideration. You practice your profession because you are devoted to it for its own sake. But still it is discouraging to be made the victims of petty swindlers and impostors, and it becomes in time a matter of no small concern. Every professional man's books are encumbered with a lot of waste lumber in the way of worthless accounts. This State has made provision against this class of small but pestiferous offenders by passing a rigorous garnishment law. Under the law all debts owing to your debtor are, as a rule, subject to garnishment, the only exception being an allowance from wages of $8 per week allowed to the person who is the "head of a household and residing with the same." You can garnish all above that amount.

In this city this law has been found peculiarly effective. Here about nine out of ten of our men seem lacking in the spirit of American independence on the subject of making a living. Nearly every young man is looking for a job. His dream is "a situation." Offenders against honest dealing are found among these place-holders and this law brings them to time effectually. Employers soon get weary of defending employes against just suits at a cost of from $25 to $50, and it has become a standing rule with a number of large corporations that garnished employees must pay up or quit.

It is your duty to push such men, as the continuation of their dishonesty is injurious in many ways, one of which is that it has

a tendency, in the course of time, to impair that feeling of benevolence which distinguishes those who minister to the ills the flesh is heir to and causes them to turn more to the financial side of the question in their relation of physician and patient and so tends to deprive the practitioner of those resources which lie only at the command of the physician who is in thorough sympathy and benevolent accord with him who seeks his aid.

The usual defense put up by patients of this class is that the service was not properly performed or was of no value, a positive injury in fact, and they frequently further entrench themselves behind dire threats of suits of malpractice. In most cases this will be found a mere subterfuge, and their fortifications fall at the first stroke: However, malpractice suits have become a serious menace. They have become the bogey man in the pathway of practitioners of the healing art, so much so that a large percentage refuse to keep their property in their own names but invest the wife or some near relative with the legal title.

This is not as it should be, but the danger exists of having the fruits of the labor, toil and study of years swept away in a few days of litigation, notwithstanding conscientious devotion to professional duties. The dentist, to avoid this, should, among other precautions, see that all his acts shall, as far as possible, be within the unquestioned limits of his profession. Dentistry may I suppose, defined as the art and science of treating, mechanically, medically and surgically, the denture and its appurtenant or supporting tissue. If the operation is beyond the limitation the law fixes for the dentist and is within the domain of the physician or surgeon, the dentist would be held answerable for any unfortunate results. If the unfortunate result is from an act within the limits of his profession, he then is exculpated if he has used ordinary care and skill such as the case and the circumstances render reasonable. Beyond the limitation of his profession he cannot safely go, even with the consent of his patient, as no one can consent to become the object of malpractice.

There are many grounds on which the question of malpractice may be based. They might be classed as use of improper or unclean instruments, unskillful use of instruments, wrong operations or remedies, and unauthorized operations or remedies. The author I have alluded to advocates the venturing somewhat into the field of medicine. From a legal point this seems questionable. The law of the State prohibits positively the practice of medicine or surgery by other than a licensed physician.

The time is too short to consider this important subject at any length. The administration of anesthetics, however, should be especially mentioned. Dr. Rehfuss states, at time of writing his book, that but three anesthetics were in practical use—chloroform, ether and nitrous oxide gas— and advocates, apparently, the legal right of a dentist to administer any of them. Theee are two others which have since been much in use among your profession—cocaine and the application of that or some other anesthetic by cataphoresis. The latter method, I understand, though for some time in general favor, is now little used. In all of the others, except nitrous oxide gas, the dentist, when he uses them on his own authority, does so at the assumption of great risk so far as the law is concerned. He must remember that if results are unfortunate and he is called on to defend, he goes, not before a jury of his peers—not a jury of educated dentists or physicians—but before a court of laymen, of which his honor on the bench is one. All are ignorant of your profession, and, besides, it can readily be shown that the very foremost physicians of the world are doubtful as to the conditions that indicate and contraindicate the administration of either or any of these anesthetics.

It is safest and best to have a medical friend at your elbow. The law makes his back broad enough to bear it; let him shoulder the burden.

A case occurred not far from this audience room which well illustrates this. A female patient called on a dentist for some painful operation and insisted on anesthesia. He called in a physician who examined and expressed some slight doubt as to the heart condition and finally declined to advise anesthesia. The patient was importunate and at length the dentist assumed the risk. In a few minutes, after an apparent recovery, she fell in violent convulsions and only the immediate availibility of proper remedies and heroic efforts of the physician prevented a successfhl damage suit for $5,000.

In this connection another serious matter is worthy of attention. Anesthesia is highly productive of erotic sensations and hallucinations in female patients and a number of instances are on record where they have related with the most convincing and circumstantial detail, criminal assaults during anesthesia, which both evidence and reason shows were illusions.

One most eminent dentist in Philadelphia died in the penitentiary, a convicted felon, on account of a charge of this kind. Always have a disinterested witness present. One most damaging accusation of this kind, perfect in all the detail of its particulars, was defeated only by the fact that the lady's husband was present during the entire period of anesthesia and, by his evidence, contradicted the charge absolutely and so prevented the ruin, disgrace and punishment of an innocent man.

SECRETARY'S REPORT.

WM. L. NOBLE, M. D.

It is with pleasure I present tonight, the third annual report of the West Side Hospital Training School for Nurses.

The school as some of you know, started about four years ago. It was in the beginning something of an experiment. Our hospital was a private one, and small compared to some of the charitable institutions surrounding it. The patients who came to us were of a different grade than those usually found in a public hospital, and we felt that our nurses needed a special kind of training for they would be called upon to do; so our new enterprise was launched, and to our gratification proved successful.

We had a surprisingly large number of applications for pupil nurses, and out of the number, eleven graduated in June of '98. Great credit is due to these women, because the hospital was not so well equipped as now, and there was more of the disagreeable to overcome than usually falls to the lot of nurses.

June 12th. '99 our second graduation took place. The class comprised thirteen capable women; women thoroughly trained and competent to take care of all kinds of illness.

Tonight our graduates are once more thirteen, and what has been said of the others is every whit as true of this class.

We all know that the life of the hospital nurse is not an easy one. It requires strength and cheerfulness, patience and self control, qualities oftentimes hard to make come uppermost for every day wear.

The class of 1900 has proved itself faithful in these requirements and we doctors and teachers congratulate our graduates on the fine record they have made for themselves and the school.

During the last year there have been upward of three hundred applications for admission to the training school. Twenty-one have been accepted as pupil nurses. One of the number has been given an extended leave of absence on account of ill health. There are at present thirty nurses and four probationers in the school.

The course of training covers a period of two years. During the school year, from September first to June first, a carefully

prepared schedule of lectures, demonstrations and class work has been carried out. A summary of the work covered includes lectures on:

Hygiene, Bacteriology and Pathology	Dr. Davison
Anatomy and Physiology	Drs. Eckley & Sherwood
Nursing in Medical Diseases	Dr. Michel
Materia Medica	Dr. P. H. Conley
Urinalysis and Anesthesia	Dr. Weaver
Gynaecology	Dr. Newton
Surgery	Dr. West
Surgical Appliances	Dr. Weiner
Bandaging	Dr. Eisendrath
Emergency Work in Homes	Dr. Davis
Obstetrics	Dr. Barrett
Diseases of Children	Dr. Earle
The Eye and Ear	Dr. Noble
Skin Diseases	Dr. Fischkin
Ethics of Nursing	Dr. Steele

Classes on practical nursing embracing the care of medical, surgical and obstetrical patients have been conducted twice each week by the superintendent and assistant superintendent and examinations held at stated intervals.

The out-of-door uniform was adopted this year, and that it met the approval of the graduate nurses, was shown by the fact that thirty nurses applied for orders for uniforms during two months.

For our pupil nurses we claim a pleasant home during training, a home presided over by gentle, motherly Mrs. McCollum, and which we shall endeavor to make as attractive as circumstances will warrant. The advantages of the training received in a private over a public institution, we believe cannot be over estimated.

The nurses are brought in contact with the same kind of patients as when on private duty in homes. Their work receives more individual attention from the doctors and superintendents, while the invaluable qualities, tact, and the finest, truest womanliness is far better conceived in a private hospital than they could possibly be in a charitable institution.

Most of the graduate nurses from the West Side Hospital Training School are engaged in private nursing in the city. They may be reached through the registry at the Hospital, and all calls will receive prompt attention at any hour of the day or night

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

Editor, H. C. WADDLE, '03. **Business Mgr. E. J. MERKI, '02.**

Class Editors:

H. B. HAMILTON, '00. CHAS. M. NOBLE, '01. PAUL E. GRABOW, '02.
GUY C. WAUFLE, '03.

Faculty Department, DR. W. A. PUSEY.
Alumni Editor, DR. C. C. O'BYRNE, '94 **Clinical Department, JOS. ZABOKRTSKY, '01**

Publishers. - - - - - MERKI & WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **E. J. MERKI**, Business Manager, 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers will not hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

Dr. D. N. Eisendrath, the author of one of the leading articles in this issne of the PLEXUS, was born in Chicago, in 1867 and received his public school education here. He afterwards graduated at Johns Hopkins University, with A. B. degree. Dr. Eisendrath took his M. D. degree from Northwestern University Medical School in '91, was interne in Cook County Hospital until fall of '92, when he took a year's work in Vienna, after which he was assistant in the Surgical Department of Hamburg's largest hospital (2,000 beds), for fifteen months, under Dr. Schede. After remaining six months in Berlin, Paris and London; returned to Chicago and began practicing.

Dr. Eisendrath is now attending Pathologist to St Lukes

and Michael Reese Hospitals, Attending Surgeon to Old Peoples' Home, Professor of Bandaging in West Side Training School for Nurses, and Professor of Clinical Surgery, College of Physicians and Surgeons.

Dr. Eisendrath gave a very interesting and instructive course in Surgical Pathology at the P. & S. College, at the spring term just closed.

* * *

There has never been a year in the history of the College of Physicians and Surgeons, in which there has been as much accomplished for the good of the college as has been during the year just past. It will long be held as the "red letter" year in the college's history.

The college's attendance has been considerably greater than ever before; the temporary affiliation with the University of Illinois has been made permanent and, to cap the climax, the college trustees have completed the arrangements for the purchase of the West Division High School, from the Board of Education of Chicago, this building to be used exclusively for college purposes. The final steps are to be taken by the city council of Chicago and the trustees of the University of Illinois, and then the High School becomes a part of the College of Physicians and Surgeons.

The price to be paid for the building is $186,000 and they are to get possession of it on July 1st, 1901.

* * *

Among the numerous changes to be made in faculty and curriculum of the college, the introduction of the clinics to the Freshman and Sophomore work is one of the most important. The Senior Professors are to give these clinics and the object is to supplement the work that the members of the Sophomore and Freshman classes are receiving and in this manner give new life to the sometimes dry and uninteresting subjects of these years' work. Of more of the changes in curriculum and faculty we will have more to say in next issue of the PLEXUS.

LIBRARY NOTES.

GRACE W. BRYANT, LIBRARIAN.

Mrs. Frank B. Earle has given to the library a fine picture of Dr. Earle, beautifully framed. Many comments of appreciation and admiration have passed upon it by the students since its arrival.

The following articles by members of the Faculty have been noted in the journals.

Dr. W. T. Eckley. Study and Dissection of the Pelvic Outlet., *Chic. Clinic*, June, 1900, p. 288.

Dr. G. F. Lydston. Professional Amenities, *Doctors' Magazine*, June, 1900, p. 36, also Waiting For Tim. *Doctors' Magazine*, June, 1900, p. 62.

Dr. J. B. Murphy. When to Operate in Appendicitis, *Chic. Med. Recorder*, June, 1900, p. 472.

Dr. W. A. Pusey. Present Treatment of Syphilis, July, 1900, p. 247.

The list of new books is given up wholly to the first installment of Mrs. C. A. Logan's gift noted in the PLEXUS.

NEW BOOKS.

MRS. C. A. LOGAN'S GIFT.

Acton, William. Functions and Disorders of the Reproductive organs, 1865.

Aitken, William. Handbook of Treatment, 1882.

Aitken, William. Science and Practice of Medicine, 2 v., 1886.

Amer. Jour. of Medical Sciences. V. 13–21, 1847–51.

Amer. Medical Assoc. Code of Medical Ethics, 1867.

Amer. Medical Assoc. Manual of Meeting in Chicago, June, 1863.

Amer. Medical Assoc. Transactions, v. 14–16, 18–19.

Amer. Public Health Assoc. Reports and Papers, v. 4, 1880.

Amidon, R. W. Manual of Electro-therapeutics, 1884.

Archives Générales de Médécine.

Bagehot, Walter. Physics and Politics, 1873.

Barclay, A. W. Medical Diagnosis, Ed. 3, 1864.

Barker, Fordyce. Sea-sickness, 1870.

Barrington, A. Physical Geography, 1857.

Bartholow, Roberts. Practice of Medicine, 1882.

Bartlett, Elisha. Diagnosis and Treatment of Fevers, 1847.

Barwell, Mrs. Advice to Mothers on Treatment of Infants, 1850.

Barwell, Richard. Diseases of the Joints.

Bashan, W. R. Renal Diseases, 1870.

Bastian, A. C. Modes of Origin of Lowest Organism, 1871.

Beale, L. S. How to Work the Microscope, 1857.

Beale, L. S. Microscope in Medicine, 1878.

Beard, G. M. Nervous Exhaustion, Ed. 2, 1880.

Beard, G. M. and Rockwell, A. D. Medical and Surgical Electricity, 1875.

Beck, J. B. Infant Therapeutics, 1855.

Bell, John. Importance and Economy of Sanitary Measures to Cities, 1860.

Bell, John. Regimen and Longevity, 1842,

Bennett, J. H. Clinical Lectures on Principles and Practice of Medicine, 1860.

Billing, Archibald. First Principles of Medicine, 1851.

Birch, S. B. Constipated Bowels, 1861.

Bird, Golding. Urinary Deposits, 1859.

Bird, P. H. Diseases of Children, 1855.

Bloxam, C. L. Chemistry, inorganic and organic, 1873.

Brocklesby, John. Elements of Meteorology, 1854.

Brown, I. B. Diseases of Women, 1856.

Bodenhamer, W. Aetiology, Pathology, Diagnosis and Treament of Anal Fissure, 1868.

Bodenhamer, W. Diseases of Rectum and Anus, 1855.

Crodie, B. C. Clinical Lectures on Surgery, 1846.

Browne, E. A. How to use the Opthalmoscope, 1877.

Brown, Thomas. Taxidermists Manual, 1860.

Brunton, T. L. Index of Diseases and Remedies, 1860.

Budd, Geo. Diseases of the Liver, 1857.

Byford, W. H. Chronic Inflammation and Displacements of the Unimpregnated Uterus, 1864.

Byford, W. H. Practice of Medicine and Surgery Applied to Diseases and Accidents Incident to Women, 1865.

Alumni Department.

'94. Mrs. Evelyn Amlie, Peterson, Iowa.

'99. Glenn Wood has moved from 348 E. 55th St., to 143 E. 35th St., City.

'99. J. W. Wherry, Clarinda, Ia.

'00. L. J. Halloin has moved from Green Bas, Wis., to Euren, Wis.

'00. E. K. Avery, 773 W. Lake St., Chicago.

'00. Olin McCormick. Herscher, Ill.

'00. E. L. Burk, Vining, Minn.

'00. Geo. A. Flippin, Dermott, Ark.

'00. R. C. Monahan, Charlotte, Ia.

'00. Miss M. E. Morgan, Aledo, Ill.

FRED W. MYER–99.

We were pained recently to receive a letter from Chas. E. Husk, of Tapezala, Mexico, announcing the death of "Big" F. W. Myers, class '99, at Aguascalients, Mexico, on June 12th, 1900, of Typhus fever. Dr. Myers was sick but a short time and under the care of an old friend and college mate, Dr. Bennett, who devoted his entire time to his patient.

"Big" Fred was a congenial and popular young man, being well liked by all who knew him. He was buried at his old home, at Montezuma, Iowa.

NEWS ITEMS.

Zip, boom, bah!
Zip, boom, bah!
West Side Training School.
Rah! Rah!! Rah!!!

Miss Maude Thompson, of the West Side Training School for Nurses, carried off class honors, making an average of 96%.

Miss Elizabeth Heelan departed for a two month's trip to European countries, via St. Lawrence River Route in June. The PLEXUS wishes her a pleasant journey and expects to hear from her.

Dr. Wm. Harsha has departed for a few month's stay in Europe.

L. J. Holenberg, of the class of '01, was a recent visitor at

the PLEXUS office. He has passed the State Board in Wisconsin, and is practicing medicine at Westby.

Dr. D. A. K. Steele addressed Iowa Central State Medical Society at Eldora, Iowa, on June 19th, on "Some Reasons why Early Operations for Appendicitis are Desirable." At this meeting he met several P. & S. graduates; among them, H. H. Bay, '99, Marshalltown, Ia.; O. E. Koeneman, '99, Eldora, Ia., and W. P. Burke, Iowa Falls, Ia.

Rule D, in Dr. Fantus' article in May issue should read, "If we substitute the sign gm. or cc. for gr. or min. of the dose, we obtain fifteen doses in metric terms.

S. M. Kyes, of the class of '02, received the surgical case offered by Dr. Davidson, as having the highest credit for work in his class of Surgical Anatomy.

MARRIAGE BELLS.

METTLER–WARNER.

An extremely pretty and largely attended wedding was that which occurred June 12th, at Cedarside, the residence of Mr. John Warner, in Clinton, Ill., the contracting parties being his daughter Minnie, and Prof. L. Harrison Mettler, of Chicago.

The bride is well known and popular society leader, the daughter of the head of the banking firm of John Warner & Co. She is a sister of Congressman Vespasian Warner, who represents the Thirteenth District of Illinois in the National House of Representatives.

Dr. Mettler has occupied the chair of Professor of Physiology of the Nervous system in the College of Physicians and Surgeons for several years, and is widely known as a thorough and painstaking instructor, and an authority on neurology.

The couple are spending several weeks among the lakes and dells of the Northwest, and will be "at home" after September 30th, at their Chicago residence, 4544 Lake Avenue.

The PLEXUS extends its heartiest congratulations and well wishes, and bespeaks for the happy pair a long and prosperous life journey.

LOGAN–BROPHY.

Dr. W. H. G. Logan, who has so successfully held the chair of Dental Surgery in the P. & S. College, was married to Miss Florence A. Brophy, the daughter of Dr. Truman W. Brophy, Dean of Chicago College of Dental Surgery, on Wednesday, June 20th, at the home of the bride's parents. After their trip East, they will be at home at Edgewater, after Aug. 1st.

The PLEXUS extends to Dr. and Mrs. Logan its heartiest congratulations and well wishes.

EXAMINATION QUESTIONS FOR INTERNSHIP AT COOK COUNTY HOSPITAL, APRIL, 1900.

SURGERY AND GYNECOLOGY.

1. Etiology, pathology, differential diagnosis and treatment ment of empyema.
2. Tubal pregnancy.
3. Causes of haemoturia. Signs of probable source. Treatment.
4. Diagnostic signs of fractures of
   a. Surgical neck of humerus.
   b. Colles.
   c. Intra capsular of femur.
   d. Potts.
5. Describe two most frequent dislocations of shoulder and give differential diagnosis.
6. Differential diagnosis between cystic duct obstruction with calculus, strangulation ileus of ileum, and acute infective appendecitis.
7. Write on gonorheal salpingitis.
8. Describe the different forms of tendon sheath inflammation and give the treatment.
9. Etiology, pathology, diagnosis and treatment of pyonephrosis
10. Osteomyelitis.

OBSTETRICS, MATERIA MEDICA AND THERAPEUTICS.

1. Treatment of third stages of labor.
2. Puerperal eclampsia, etiology and treatment.
3. Ergot — preparations and action. Uses in obstetrics and abortion.
4. Medicinal preparations, doses, and treatment of poisoning by
   Carbolic acid.
   Opium.
   Nux vomica
   Arsenic.
   Digitalis.
5. Write ℞ illustrating treatment of various stages of malaria, syphilis, and erysipelas.

EXAMINATION QUESTIONS.

CHEMISTRY AND PHYSIOLOGY

1. Tests for indican and significance.
2. Salts. How formed.
3. Acid.
   Neutral salt.
   Boric salt.
   Double salt.
4. Give formula, atomic weight, and valence of
   Lead acetate.
   Tartar emetic.
   Sodium sulphate.
   Potassium cyanide.
   Ferric chloride.
5. Two tests for free hydrochloric acid in stomach and possible sources of error.
6. $Fe\,SO_4 + 2\,NaHPO_4 + 2\,NaC_2H_3O_3 = ?$
   $Hg\,Cl + 4\,HNO_3 = ?$
   $Fe\,Cl_2 + 6\,H\,Cl + 2\,HNO_3 = ?$
7. Chemical composition of gastric juice.
8. Pancreatic digestion.
9. Fœtal circulation.
10. Neurose theory.
11. Metabolism.
12. Function of supra-renal capsules.

MEDICINE AND PATHOLOGY.

1. Describe and contrast the pathological changes in the various forms of cirrhosis of the liver. To what are the symptoms of hyper and atrophic cirrhosis due.
2. Describe the pathological changes in the heart resulting from senile arterio-sclerosis.
3. Describe the blood changes in chlorosis and pernicious anemia.
4. What diseases cause hemorrhagic diathesis.
5. Variola:
   Symptoms.
   Diagnosis.
   Morbid anatomy.
6. Diagnostic signs of uraemic coma due to chronic interstitial nephritis.
7. Coma—differential diagnosis in

Uraemic.
Apoplexy.
Acute alcoholism.

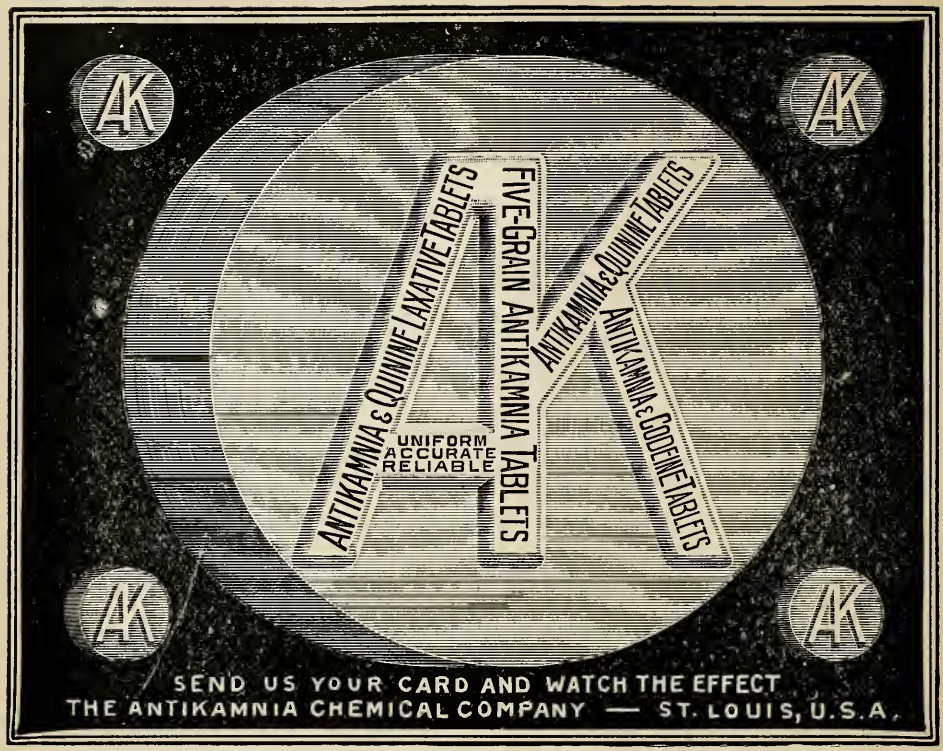
8. Symptoms and signs of typhoid at end of second week with sudden profuse hemorrhage of bowel. Give treatment for the hemorrhage.
9. Symptoms and signs of acute septic peritonitis and give five common causes.
10. How differentiate the various forms of acute cerebro-spinal meningitis by their bacteriological causes. Identify bacteria.

EYE AND EAR.

1. Define concomitant and paralytic strabismus. Differential diagnosis.
2. Differential diagnosis between acute conjunctivitis and iritis and treatment of former.
3. Causes, symptoms, and treatment of acute otitis media.

ANATOMY.

1. Trace the deep cervical fascia.
2. Describe the femoral artery.
3. Describe the axillary space.
4. Name the contents of the right border of the gastro-hepatic omentum and give relations.
5. Draw diagram of and name parts cut in amputation at the middle of the leg.
6. Describe the musculo-spiral nerve.
7. Name the branches of the external carotid.



TRUAX, GREENE & CO.,

Physicians' and Hospital Supplies, Surgical Instruments.

The largest and most complete Physicians' Supply House in the World!

—

TRUAX, GREENE & CO.,

46 WABASH AVENUE, Bet. Lake and Randolph Streets.

WM. A. FISHER, M. D., Pres. JOHN R. HOFFMAN, M. D., Sec

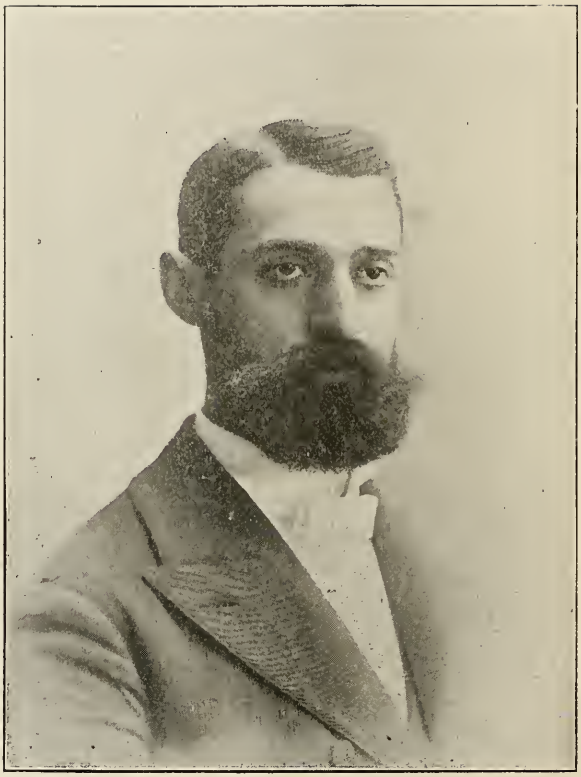
A. G. WHIPPLE, M. D., Vice Pres.

Chicago Eye, Ear, Nose and Throat College.

A Clinical School for Practitioners of Medicine.

Equipment unexcelled. Abundant material. Clinical instruction. Courses one month in duration. Practitioners may enter at any time. Equal advantages the year round. Write for catalogue and information to

JOHN R. HOFFMAN, Secretary, Trude Bldg., 67 Wabash Ave., Chicago.



CARL BECK, M. D.

Professor of Surgical Pathology, College of Physicians and Surgeons, Chicago.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. AUGUST 20th, 1900. NO. 4.

PLASTIC OPERATIONS FOR RESTORATION OF FUNCTION.

By Dr. Carl Beck, Prof. of Surgical Pathology.

Plastic surgery had formerly and has more or less yet the object to restore form and shape of parts of the body, which have been destroyed or deformed by injury or disease. It is a chirurgia cartorum as Celsus calls it, a cosmetic surgery. Of course it is expected that the parts restored should also fulfill the function of the parts lost but this consideration is in most instances secondary. If an individual has lost a nose by disease or injury, it is the object of the surgeon in the first place to remove the unsightly defect and he does not think about restoring a mucous membrane with the specific sense or the inner shape of the nose with its physiological function, the shape is the most important. From this purely cosmetic surgery gradually developed the idea of undertaking operations to restore function, for instance, the removal of scars, and plastic covering of the defects to allow free movements of joints in cases of cicatricial contraction on such joints.

The last and most remarkable progress in plastic surgery, however, which as yet has not come to general knowledge is the restoration of function regardless of shape, or even at the expense of form. "Pour la classe orvriére," says Xerneuil, "la fonction des membres est la chose principale. (For the working

class the main thing is the function of their hands and no matter how beautiful the result of a plastic operation of a hand would be in regard of form, its use is nil if the hand cannot be used.

Without going into the detail of method and result I will mention two kinds of plastic operations which belong to this last class. First. The restoration of a thumbless hand to function. by plastic. Extensive lacerations destroy often the fingers and especially the thumb, so that the hand becomes useless. Though a large portion of it may be left it may be crippled the loss of the thumb, and four fingers without the thumb are qualitatively less valuable than one finger and thumb, which allows a firm grip.

Hnguier has theoretically and Quermonprez first practically developed a method of plastic restoration of a thumb from the remaining fingers or stumps of fingers and Lauenstein has shown in a case of its practical use. I have succeeded in two cases, which will be described and illustrated elsewhere, to restore the functions of a stump of a hand with three fingers only, by transposition of the middle finger in such a manner that it could be opposed to the others and used for a grip like a thumb and the men were able to use their hands for their work again.

Second. Transportation of tendons in case of infantile and other paralysis to restore the function of a limb. The experience teaches that in infantile paralysis and other paralysis the loss of function usually does not extend equally over all muscles, but over certain groups of muscles, so that for instance the anterior groups of muscles on the lower extremity, especially of the food are paralyzed the posterior paretic or even active. If the tendons of the active muscles are split in a certain way—the detail of method I can not go into—and if these tendons are hitched to the ends of the tendons of the paralytic muscles, then these paralytic muscles are replaced and the function may be restored. A number of such cases are in the literature already and I myself have had such cases which I describe in detail elsewhere.

The muscles which are through tendinous plastic attachment connected with points that served as attachments to paralyzed muscles may be made to work as antagonists to portions of their own group and physiological functions maybe reversed, but there is a power of adaptability in the body, which is astonishing, it surpasses even our expectations. It is remarkable to

see a child with a pes equinus or equino varus lift the toes after such an operation through muscle action which used to produce the antagonistic movement. An arthrodesis, that is a stiffening of joints which used to be done for such cases is restricted now in its field of indication. Of course the number of suitable cases is limited and only few will give good results.

VALDEMAR PLETH, Ph. B., M. D., CHICAGO.

A CASE OF SUPERNUMERARY MUSCLE IN THE FOREARM M. ACCESSORIUS AD PLEXORUM PROFUNDA.

By Valdemar Pleth, Ph. B., M. D., Chicago.

Editor, Plexus:—In reply to your invitation to contribute to the Plexus, not having anything of interest at hand just now from the field of practice of medicine, I shall report an anatomical anomaly, which I met with recently.

While dissecting a cadaver early this spring in one of the medical colleges in this city, my attention was directed by one of the students to a peculiar muscular arrangement in the left forearm of a male subject and on examining it we found an extra muscle. It had its origin from the inner humeral condyle and process coronoid ulnae being situated between *M. profundi digit* below, and *M. flex. sublimis digit*, above; it had at first a sheath of its own; about a little below the middle of the forearm, MP. it gradually became tendinous and partially blended with the tendon of *M. profundi digit*, down to the Carpo-metacarpal-articulation opposite the second digit, CM. From the carpo-metacarpal-articulation to the terminal phalanx of the second digit it could not be distinguished from the *M. profund. digit.* tendon.

The nerve supply of this accessory mucle was found to be the *Median.*

The dotted line represents course of muscle. The literature upon muscular anomalies abounds with cases of the most peculiar kind and too much can not be known about such abnormalities; for an active surgeon it may prove of value and from the standpoint of comparative anatomy every new case reported tends to spread light upon this most important branch of medicine, a branch which within a few years, will be demanded from every student of scientific medicine. Supernumerary (accessory) muscles are found everywhere, although the upper extremities seem to have the preferance in this respect; accessory muscles in a few instances have been reported to follow *M. flex. profund. digit*; though also the other arm-muscles have been found with accessories.

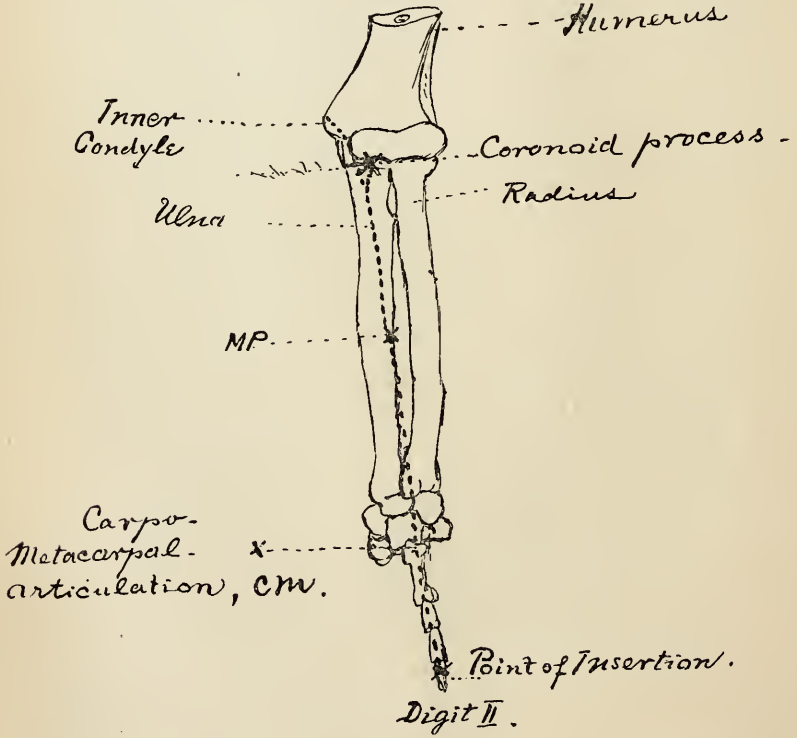
In Gould's Med'l. Dictionary, 1896, on p. 795 is described a

M. access. ad. M. profund; also in Quain's Anatamy is such a case mentioned.

The lower extremities have offered similar anomalies, though not in such great number as the upper ones.

Brühl in Wiener Med. Wochensch, 1871, xxi, 389–91, reports a case of a *M. accessorius externus hallucis longus.*

In a few instances a muscle has been found to be double, thus Fenwick reports two cases of double *M. pronator quadratus* (vide: Canadian Med. Jour., Montreal, 1864–65). Gruber reports in Archiv. f. Pathol. Anat., Berlin, 1877, L xix, 400–403, a case of *M. flex. pollicis longus* acting either as a *Tenser bursee mucosee*



tendinum M. M. flexorum or as the head of *M. profund. digit.* In Nederl Tijdscher. v. Geneesk, Amsterdam, 1862, vi. 610, is reported a case of *M. accessorius supinatar brevis, etc.*

Streets in Am. Jour. Med. Sc., Philadelphia, 1872, L xiv, 131,

reports anatomical anomalies of *M. flex. sub. digit.* and of *M. profund. digit.*

The space allotted in the PLEXUS is however too small to allow of any extensive treatise on the subject of supernumerary muscles and their relations to comparative anatomy. For those who wish to follow it up more closely, references can be found in the excellent article written by S. H. Wood in human muscular variations, etc, in Jour. Anat. and Physiol., London, 1866–67, I, 44–59.

In Archiv. f. Pathol. Anat., Berlin, 1881, L xxxvi, 471–490, is an excellent monograph about the constant *M. extenser pollicis et indicis* of certain mammalians and their homologues to the supernumerary muscles in man.

Sanmetto in Prostatitis and Cystitis. Dr F. R. Dobson, of New Orleans, La., Late Surgeon U. S. A., writing, says: "While Surgeon in First Division Hospital, stationed at Jacksonville, Fla., I had occasion to see an interesting case of prostatitis treated with Sanmetto, with entire success. The patient was a private in the Second Nebraska Vol., and his condition upon entering the hospital was deplorable, the bladder being distended with urine, the overflow dribbling constantly. His condition was traceable to gonorrheal infection. Since my return to New Orleans I treated with Sanmetto a case of purulent cystitis, which had resisted all other treatment. The result of the taking of one bottle of Sanmetto was permanent relief."

Sanmetto in Hematuria. E. B. Gilbert, M. D., Ph. D., of Carbon, Texas, writing, says: "I used Sanmetto on a patient who had hematuria of long standing, and it gave the very best of results. The gentlemen came back to my office about ten days after I prescribed Sanmetto for him, and said he had tried four doctors (naming them), and had gotten no good results, but that I had cured him. He being a very influential man, and I being a young physician, it has been worth quite a lot to me in the way of practice. I have on hand at present, three genito-urinary cases, who came to me for treatment, as a result of the success I had on that special patient, who would otherwise have gone to their family physicians."

BROMIDE OF ETHYL

By Aime Paul Heineck.

(*a*) Discussion of use as a general anæsthetic.

(*b*) Technique of administration.

Local anæsthetics have a wide field of usefulness. Their toxicity, when properly used, is practically nil. Their efficacy is, in many cases, all that is desired. The same as other therapeutic agents, they have their shortcomings, they have their limitations. Each local anæsthetic has its elective field of action. Lor example, cocaine, when applied to the conjunctival mucous membrane, secures, a perfect anæsthesia of that membrane, and by percolating through that mucous membrane to the deeper parts, also anæsthetizes the latter; for instance, in adults, under cocaine-anæsthesia, iridectomy can be painlessly performed. The use of cocaine, in ophthalmic surgery, is never attended with danger. It is the ophthalmic surgeon's anæsthetic of election. Applied to the nasal mucous membrane, in sufficient concentration, and for the required length of time, it will anæsthetize it, but the occurrence of cocaine-intoxication from this use of it, is not so infrequent as to be ignored. Cocaine, nevertheless, has a wide field of usefulness in rhinology. Applied to the diseased urinary vesical mucous membrane, it is liable to produce such alarming symptoms, that for anæsthesia of the urinary bladder, I have abandoned it and employ in its stead either betacocaine or antipyrine. As a further example, that each local anæsthetic best meets special indications and that they must not be selected haphazardly, I may say that for the benumbing of pain, incident to the incising of the skin for the evacuation of a superficial abscess, ethyl chloride will be found very serviceable, while Schleich's infiltration anæsthesia would be unsuitable, both clinically and pathologically. It would intensify the tension in the part; it would diffuse the materies morbi. It fails to anæsthetize hyperæsthetic areas. On the other hand, for the enucleation of a sebaceous cyst, we would use infiltration anæsthesia as anæsthesia by refrigeration such as is typically furnished, by ethyl chloride is too superficial, too evanescent, fails to enæs-

thetize deeper parts, and, if repeated immediately, on the same tissues while they are thawing, it is liable to impair their vitality. The infiltration method enables us to float, so to speak, the sebaceous cyst in an anæsthetic area. With refrigeration anæsthesia, the parts remain anæsthetic for a few minutes only; with infiltration anæsthesia, they remain anæsthetic for from 10 to 15 minutes. The re-infiltration of tissues, after they have ceased to be anæsthetic, does no harm, provided the solution employed be aseptic.

Owing to the fact that local enesthetics fail to abolish consciousness, frequently they fail to secure complete and satisfactory anæsthesia. Incomplete anæsthesia, being associated with perception of pain, and, with the patient,s manifestations of this perception, prevents the operator from concentratiug his mind entirely to the technique of the operation which he is performing. Loss of consciousness during the performance of operative procedures, I have found to be especially desirable in children and in nervous patients. The former, at sight of instruments and blood, become unruly; the latter are, in the presence of the same conditions, subject to syncope.

Incident to general surgical anæsthesia, there is a mortality, almost insignificant, however, when the agent used is properly administered. "Death from an anæsthetic can often be traced to some carelessness." (*Amer. Text-Book of Surgery.*) Fatalities have unexpectedly occurred in the practice of skilled anæsthetists. There has yet not been found nor proposed an absolutely safe and efficient general anæsthetic. There are discomforts and dangers present in the use of all these agents. Still, without fear of contradiction, it can be positively asserted that the discomforts and dangers incident to the induction and the maintenance of general surgical anæsthesia can be minimized, and often elimnated, if surgeons will only become acquainted with the merits and demerits of our principal general anæsthetics, thereby qualifying themselves to select that anæsthetic agent which is best adapted to the needs of the case at hand. He is the wisest clinician and the most helpful to his patients, who selects, in each individual case, the therapeutic agent that best meets the indications that that case presents.

There is no technique of administration common to all the general anæsthetics, but there is a technique proper for the ad-

ministration of chloroform, another techniqne, dissimilar from the former, for the administration of ether, and so on. To administer chloroform according to the technique employed for ether-anæsthesia would be criminal, would surely produce death of the patient. To administer ether according to the technique employed for chloroform-anæsthesia, would be faulty, would be a waste of time, and would, in the majority of cases, fail to secure complete anæsthesia. So it is with Ethyl Bromyde and with Nitrous Oxide; each of these agents has a tecnnique of administration peculiar to it. Because of their ignorance of this fact, many physicians are not safe anæsthetists.

Nitrous Oxide, Ethyl Bromide, Chloroform and Ether are the four most widely used agents, the inhalation of which is productive of general surgical anæsthesia. Nitrous Oxide is the safest of these agents. In over 400,000 recorded administrations of the gas, only one death occurred, and it is not positively certain that this death was due to the gas. It has not become popular with the general medical practitioner, because :

(1) Nitrous oxide anæsthesia cannot be prolonged for more than a few minutes, hence it can only be employed in operations which take but a short time for their performance.

(2) It fails to secure complete muscular relaxation. This unfits it for use in the reduction of fractures and dislocations, and in all cases where complete muscular relaxation is required, as in gynecological examinations conducted under general anæsthesia.

(3) The last and by far the most important difficulty that up to this time opposes the popularization of this anæsthetic is that its adminis tration necessitates a cumbersome and not easily portable apparatus.

The usefulness of, and the indications for, the employment of ether and chloroform, I have exhaustively discussed elsewhere. (*Med. Standard, '99.*) They have an established sphere of indications. Yet it is my opinion, based on clinical observation, that the comfort and the safety of the patient, as well as the convenience and ease of mind of the operator, can often be promoted by using, in appropriate cases, ethyl bromide instead of chloroform or ether. Many operations do not demand the long anæsthesia of ether with its attendant discomforts, nor do they warrant submitting the patient to the dangers of chloroform anæsthesia.

Hence, in hiatus. which in the present state of our knowledge, can often be filled by the use of ethyl bromide. It is an agent well adapted to secure anæsthesia for operatians of short duration. It is an agent especially adapted for use in children and young adults.

Ethel bromide (chemically $C_2 H_5 Br.$) is a very volatile liquid, having a very agreeable odor and a non saccharine taste. It has a density of 1.40 and a boiling point of 40.70. It has the great advantage over nitrous oxide of portability and simplicity as regards the apparatus required for its administration. Our text-books on surgery mention the agent but fail to give the technique of its administration, and fail to give it the consideration which it deserves. It is a general anæsthetic, the popularity of which is increasing. It is an innocent anæsthetic on condition that its inhalation be of short duration and that it be administered properly. If it is not administered properly, its use is unsatisfactory to the operator and dangerous to the patient.

Dr. Chisolm has used it in 3,000 cases without fatal or untoward results occurring during or after its use. Gilles collected 20,000 bromide ethylizations without a death. Reich went over the literature and found that 16 deaths had occurred in 60,000 administations. In some of these 16 cases, the anæsthetic had been administered faultily; in others, an impure or decomposed preparation had been used, and in a few cases, the deaths were directly traceable to the anæsthetic. I have used the agent myself and have seen it used in Prof. Coulter's and in Prof. Hawley's nose and throat clinic, and I have never seen any ill results from its use. With bromide of ethyl, as with other anæsthetics, experience is required to be able to use it to the best advantage, and with the greatest safety to the patient. Bromide of ethyl exerts no notable influence on the inhalant's temperature. It exerts no modifying influence on the secretions. In some individuals, its use provokes marked sweating. Its stage of excitement is of a very transient character. Owing to the fact that it does not relax muscular spasm, it is not of aid in the diagnosis of fractures and dislocations, and can not be utilized in effecting the reduction of these conditions. Outside of slightly accelerating the pulse, it has, in therapeutic doses, no special action on the heart. In toxic doses, it is a depressant. It accelerates the respirations.

It has a marked depressant action on the respiration only when large and practically excessive doses are taken. Death is caused by the toxic action of the drug on the respiratory center. It is elimnated by the lungs. Owing to its great volatility, it is rapidly elimnated. "Bromide of ethyl is almost totally eliminated by the respiratory organs." (Ch. Robin.) Traces of it have been found in the renal secretion.

ADVANTAGES OF ETHYL BROMIDE AS A CENERAL ANÆSTHETIC.

(1) Simplicity of use. Technique of administration is easily acquired. If during the inhalation of this agent accidents should occur, they are, owing to the great volatility and rapid elimnation from the system of bromide of ethyl, rapidly recovered from.

(2) Under its use, the performance of operations upon patients in the sitting posture is permissible. This posture, though not as favorable as the recumbent posture, is not dangerous for brom-ethylized patients, owing to the fact that bromide of ethyl produces cerebral congestion and not cerebral anæmia. This agent, unlike chloroform, is not a predisposant to syncope. With ether anæsthesia, the sitting posture is undesirable; with chloroform it is positively dangerous. The maintenance of the patient in the sitting posture is of great convenience to the operator for the performance of operations in the nase-pharynx, such as the removal of nase-pharyngeal adenoids, tonsillotomy. Patient's head and neck can, at the proper time, be rapidly thrown forward, and the blood thereby escapes through the mouth and nostrils instead of gravitating in the stomach or in the lungs, as it is prone to do when mouth or throat operations are performed with patients in the recumbent posture.

(3) Great rapidity with which anæsthesia is produced. The time required to produce deep narcosis varies from 45 seconds to 2 minutes. Generally speaking, one minute suffices. This saving of time is of distinct advantage in dispensary and in office work, especially when one considers that the inhalation of this drug, if it be pure and if it be employed with proper precautions, is not more dangerous than the inhalations of ether and chloroform. In fact, it is less so. An average of from 8 to 15 minutes is required to produce ehter anæsthesia.

(4) Great rapidity with which consciousness is recovered..

Brain recovers its functions perfectly and quickly after the deep but very transient impression brought about through the inhala- of the vapor of this potent agent. Usually, after the with- drawal of the inhaler, the patient will remain unconscious from two to three minutes and will then promptly return to consciousness. After the anæsthetic is removed, co-ordination of the muscular movements is rapidly regained. Five minutes after the anæsthesia, the patient is as much himself as if no anæsthetic had been administered. He can leave the office and walk home, unassisted and unattended. This feature makes this agent useful for such operations as can safely be performed in the physician's office.

(5) Absence of annoying after effects. No shock after its use. Nausea and vomiting does occur, but are very infrequent if the drug is inhaled upon an empty stomach. If after its use, vomiting occurs and persists, relieve it by having the patient take a draught of ice water, or by having him swallow small pieces of ice. Frequently after its use the patient's breath for a few days has a mild garlicky odor. This is not productive of much discomfort. Bromide of ethyl is quite unirritating to the respiratory mucous membrane, hence its inhalation is hever followed by bronchitis, ether pneumonia; neither is it followed by other such unfortunate post-anæsthetic complications as ne phritis.

(6) Odor does not remain, as does that of ether, on the clothing of the operator, or on that of his assistants. Odor does not permeate the office.

(7) It can be safely administered without as much pre-anæsthetic preparation of the patient as is required for ether or chloroform anæsthesia.

DISADVANTAGES.

(1) It is not suitable for prolonged anæsthesia. Experience has conclusively demonstrated that its use is dangerous in operations, the performance of which requires more than a few minutes. For prolonged anæthesia, this agent possesses no advantages over ether or chloroform. It does possess additional dangers. Hence we will employ this agent only in those operations to which it can be adapted, that is, only in operations of short duration. Even the warmest advocates of bromide of ethyl concede that it should not be used as an anæsthetic for

prolonged operations. "Its use should be restricted to short operations." (Gleich.)

(2) The use of bromide of ethyl is contra-indicated in individuals having serious cardiac, renal or pulmonary lesions. Alcoholics are not favorable subjects for brom-ethylization.

(3) It does not secure complete muscular relaxation. "Bromide of ethyl, as it often causes muscular rigidity, should not be used in operations in which relaxation of the muscles would be of assistance." (Dudley Buxton.)

(4) It is easily decomposed by exposure to light and air.

(5) Like ether and chloroform, its use requires an experienced assistant whose whole attention must be given to the administration of the anæsthetic. Local anæsthetics enable the operator to dispense with this assistant.

Bromide of ethyl general surgical anæsthesia (this agent is also employed by a few as a local anæsthetic) can be resorted to for operations such as the following: Opening of superficial abscesses, as abscesses of the abdominal wall, dilatation of the sphincter ani, hemorrhoidal operations, removal of urethral polypi, internal urethrotomy, curetting of sinuses, tonotomy, scraping of carbuncles, removal of aural polypi and paracentesis of tympanum, ablation of condylamata, etc., etc. Any painful surgical operation, the performance of which does not occupy more than two minutes, can be safely and painlessly performed under bromide of ethyl. The agent is particularly adapted for children while subjecting them to short examinations involving pain.

TECHNIQUE OF ADMINISTRATION PROPER.

(1) Do not employ this agent in cases unsuited for its action; for instance, as for major operations lasting more than a few minutes. Its uselessness for long operations is no longer debatable; it is established. Fatalaties have resulted from its employment in prolonged operations. You would not employ chloral hydrate for the palliation of acute pain, you would employ opium or one of its derivatives; so, for prolonged operations requiring general surgical anæsthesia, you will not employ bromide of ethyl, you will employ either chloroform or ether.

(2) Make a physical examination of your patient. Object is to determine whether there are any contra-indications to the use of this particular anæsthetic. Serious cardiac, pulmonary and

renal diseases are conditions that make the use of this agent, as well as that of other general anæsthetics, hazardous. In alcoholics, bromide of ethyl provokes a marked stage of excitement.

(3) Always be sure that the bromyde of ethyl that you are going to use is pure, be sure that it has not undergone decomposition. Impurities may come from the process of manufacture, or may come from decomposition. Exposure to air and light rapidly decomposes this agent and results in the formation of compounds having a more toxic effect than ethyl bromide. If you use one-half ounce vials, after the vial has been used to anæsthetize one patient, throw away the unused portion of the contents. This is not extravagance; it is prudence. "Most of the unfavorable symptoms, such as vomiting, are due, not to the bromide of ethyl, but to the impurities too often found associated with it." (Bazy.) Pure bromide of ethyl has a perfectly neutral reaction, with reference to litmus paper. It is colorless. If it be yellowish, it is decomposed, and contains free bromine. This latter element is a distinct irritant to the respiratory mucous membranes. As the liquid is very easily decomposed, buy it in small colored-glass vials of one-half or one ounce. The vials are sealed by melting the glass neck in the flame.

(4) Never use bromide of ethylene instead of bromide of ethyl. These substances are dissimilar compounds. The former is chemically represented by $C_2 H_4 Br_2$; the latter, by $C_2 H_5 Br$. Bromide of ethylene is not only a poor anæsthetic, but it is also a very dangerous agent. It has caused deaths.

(5) Drug is to be inhaled upon an empty stomach. When practicable, the taking of solid food should be avoided by the patient for four hours, and liquid food for three hours, before the administration. If the drug is inhaled upon a full stomach, nausea and vomiting are apt to follow its use. The most opportune time for the induction of general anæsthesia is when the patient is rested and when his stomach is empty.

(6) Have the patient urinate previous to starting the anæsthesia, this lessens the liability to involuntary emission of urine during anæsthesia. This accident, when it occurs, is always very embarassing, especially so in female patients.

(7) In the absence of a special indication for the employment of any other position, the recumbent posture with slight

elevation of the head, is the posture of election. It is more convenient for the operator; it is safer for the patient. If the patient be a child, and the operation be one of the buccal cavity, demanding that anæsthesia be secured in the sitting posture, wrap a sheet around the patient's neck an chest so as to include and prevent the movement of the arms. The child is then taken upon the nurse's lap, its legs being placed and immobilized between the nurse's thighs. The nurse's left arm encircles the child's chest to prevent struggling and movements of arms, and her right hand immobilizes the child's head on her right shoulder. This is same position that is employed for the intubation of children.

(8) All constrictions about the neck, the chest, or the abdomen are to be removed. Corset is to be removed. The same applies to any other agency interfering with the respiratory movements. Free respiration hastens the production of anæsthesia, and also facilitates, once the inhaler is withdrawn, the elimination from the body of the ethyl bromide inhaled. The inocuousness of this agent is largely due to its great volatilty, and to its rapid elimination from the system. Interference with the patient's respiratory movements is not uncommonly due to a lazy assistant using the patient's chert as an arm rest.

(10) All foreign bodies such as chewing gum, false teeth, etc., are to be removed from the mouth. If the operation is to be performed in buccal, nase-pharyngeal, cavities, previous to starting the anæsthetic, insert, carefully and gently a mouth gag with padded alveolar projections between the patients left upper and lower molars. With bromethylization, there is often mild trismus.

(11) Leave eyes uncovered and watch them. When anaelgesia begins to appear, the pupils dilate and the conjunctival vessels become appreciably congested. The anæsthetist is to watch the anæsthesia only, the operator is to watch the operation.

(12) Inhaler to be used can be made by folding a crash towel into an air tight cone. The cone is made almost impervious to air by placing a layer of paper between the folds of the towel. Base of cone must be large enough to cover both mouth and nose. Hold rim of cone firmly down upon the face so that very little

air can enter. The use of a cumbersome apparatus for the administration of this anæsthetic, has no advantage over that of a cone made of paper and gauze, or with paper and a towel. These cumbersome apparatuses are not as portable, are costly and are not as cleanly as the towel and paper cone, neither are they as safe. A fresh cone is to be used for each anæsthesia.

(13) Operator must be prepared to operate as soon as narcosis is complete. He must not wait for complete muscular relaxation. Every preparation must have been made in advance. Instruments must have been sterilized and arranged in the order in which they are to be used. Surgeon must be dextrous and thoroughly familiar with the different steps of the operation which he is to perform. No time must be lost, as bromide of ethyl anæsthesia is a rapidly fleeting anæsthesia. The effects of it pass off too quickly to make it of any service to slow operators or for tedious operations.

(14) Instruct patient in advance to make deep and long inspirations. Few inhalations suffice. The entire dose of anæsthetic is to be given at once. Keep in mind that bromide of ethyl is not chloroform, and that it must not be administered like chloroform. Chloroform must be administered by the drop method, cautiously and slowly; ethyl bromide must be administered in massive doses rapidly and in fact, brutally. Unless bromide of ethyl vapor is crowded, only a state of semi-anæsthesia must be expected. Push the bromide of ethyl during the few moments necessary to produce anæsthesia. Ethyl bromide, unlike chloroform, should never be used with an admixture of air. The admission of air retards and may prevent the production of narcosis. A saturated ethyl vapor must be inhaled to the exclusion of atmospheric air in order to obtain narcosis speedily and effectually.

The entire dose, for a child about two drachms, for an adult from $\frac{4}{5}$ drachms, (as much as six drachms can be used) is poured at once into the inhaler. "I pour the full dose required to produce anæsthesia into the inhaler, the dose in children ranging from one and a half to two and a half drachms, and in adults from two to three drachms. I immediately cover the patient's nose and mouth, having previously instructed the patient to breathe deeply." Kempster. Apply cone firmly and closely to mouth

and nose and do not remove it until anæsthesia is induced. Owing to the great volatility of the substance (it is the most volatile of the general anæsthetics) the removal of the cone retards the production of anæsthesia. If cone is held at a distance from the face and given with free admission of air to the space between the towel and face, satisfaciory anæsthesia will not be obtained. Once full anæsthesia has been induced and cone has been withdrawn, most authorities condemn its being applied to the face again.

The first few inhalations give rise to a very decided flushing of the face. In alcoholics, there is a short period of excitement. The agent often provokes muscle spasms. Do not be alarmed by the presence of muscular rididity, it will soon disappear. The same stage of muscular rigidity occurs during the administration of other general anæsthetics. The patient struggles violently and to the uninitiated appears to be in danger of asphyxia, nevertheless, the cone must not be removed until full anæsthesia is induced and the struggling has ceased. The stopping of all struggling, the absence of the conjunctival reflex, the falling down limply of the elevated arm, are all evidences that inform you that your patient is sufficiently anæsthetized.

In case of failure of respiration occurring in a patient inhaling bromide of ethyl, immediately place the patient in the recumbent posture and proceed to perform artificial respiration. Always begin with the act of expiration; inspiration would promote further absorption of the anæsthetic.

For the performance of artificial respiration in the combatting of some of the accidents incident to general anæsthesia, we employ either Sylvester or Laborde's method. Both methods can be employed simultaneously.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

Editor, H. C. WADDLE, '03. **Business Mgr. E. J. MERKI, '02.**

Class Editors:

H. B. HAMILTON, '00. CHAS. M. NOBLE, '01. PAUL E. GRABOW, '02.
GUY C. WAUFLE, '03.

Faculty Department, DR. W. A. PUSEY.
Alumni Editor, DR. C. C. O'BYRNE, '94 **Clinical Department, JOS. ZABOKRTSKY, '01**

Publishers. - - - - - MERKI & WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **E. J. MERKI,** Business Manager, 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers will not hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

EDITORIAL.

We are pleased to state that Poinier, '02, has recovered from his attack of appendicitis. Dr. Davis operated.

* *
*

The dispensary has been remodeled and the staff changed. Dr. Eisendrath is superintendent and has installed a clerk and a nurse Our dispensary is second to none in the West, and the boys should get good work out of it this winter.

* *
*

A word about the new catalogue. The 19th annual commencement shows P. & S. to be bigger and better than ever, and we are proud of our Alma Mater. The continuous course has

proved to be of advantage in other schools and P. & S. are keeping up to the times.

* *
*

The Physiological laboratory is a sure thing for next year. Professor Geo. P. Dreyer, of Baltimore, will give the course and his name is so well known in connection with that branch of science that a good cause is insured. The faculty are investing several thousand dollars in material and furnishings.

* *
*

Dr. D. A. K. Steele is away on his holidays.

* *
*

Dr. William Allen Pusey, our hustling secretary is enjoying a well-earned rest.

* *
*

Miss Heelan, our genial clerk, is expected home from Europe, this month.

* *
*

Dr. Soegard, the director of the X–Ray laboratory, and assistant pathologist is arrnaging a complete set of his photographs for the library. They should prove very instructive.

* *
*

R. C. Cupler, Ph. G., the popular druggist of the P. & S. is recovering from a fractured rib and sprained ankle which he received in a baseball game in Wilton, Iowa. He was running to 1st. base and collided with the man on the base. He was unconscious for some time—but under the skilful care of Dr. Mason, '00, who he was visiting, is able to resume his duties again.

* *
*

Bauman and Apfelbaum are the chief obstetricans at present. Their work in that line has been highly commended. (?)

* *
*

Dr. C. O. Wiltfong, house surgeon of P. &. S. college, is on the dispensary staff afternoons, in surgery. His clinic is one of the most interesting and instructive in the college.

* *
*

George is the original shirt waist man of the college. Blue and red stripes with white flowers was the pattern.

* *
*

Mr. H. C. Waddle has gone to Texas on business; we wish him success.

Alumni Department.

'93. C. C. Fenstermacher of Jones, Mich., was a recent visitor at the PLEXUS office.

'98. M. A. Bingby has moved to 225 W. Chicago Ave. City.

'98. J. S. Nagel has gone to the Philippines in the capacity of Acting Assistant Surgeon, with First U. S. Cavalry, with the rank of first Lieutenant. Dr. Nagel is the fourth representative of the P. & S. college in the Philippines.

'98. D. E. Brown, who has been practicing at Elk, N. Mexico, is doing post-graduate work in Chicago.

'99. R. D. Long who went to South Africa, with the Irish Ambulance Red Cross Corps, has recently written to Dr. W. A. Pusey, stating that he was now practicing at Zeerust, Transvaal, and that there was a good opening there for one or two more doctors.

'00. Guy H. Just, Broadwell, Ill.

From St. Paul Pioneer, we note that Edward L. Burke, Elwin O. Church, W. W. Cassidy, John P. Freeman and Robert E. Hixon, all of class of '00 have passed the State board examination and have received licenses to practice in Minnesota.

'00. John C. E. Weatherson, with Dr. Quine, 103 State St., Chicago.

NEWS ITEMS.

The graduating exercises of the Marion-Sims Training School, for Nurses, August 14th, were something of a novelty. The staff, alumnae, and a few friends went by trolly to "Fairbank," the country home of the president, Dr. H. P. Newnan, at Highland Park. Mrs. H. P. Newman and the superintendent, Miss M. C. Stewart, were in charge of the entertainment. There were present, beside the graduating claes, Miss M. C. Stewart, Miss Burbige, Miss Bigham, Miss Keeley, Mr. and Mrs. P. H. Merryweather, Drs. J. Edwin Rhodes, Channing W. Barrett, Charles N. Ballard, F. Gregory Connell, A. J. Schoenburg, Mr. Lumbers and others.

The graduating classes are:

Miss Annie Burbige, Malton, Ont.; Miss Josephine Bogart, Chatham, Ont.; Mabel C. Cloy, Thorold, Ont.; Miss Lulu Mallick, Toronto, Ont.; Miss Annie Oakes Chicago.

LIBRARY NOTES.

GRACE W. BRYANT, LIBRARIAN.

The following articles by members of the Faculty have been noted in the journals during the last month.

Dr. G. F. Butler. A Doctor's Paradise, *Doctors' Magazine*, July, 1900, p. 105, and What's the Use, (a poem) *Doctors' Magazine*, July, 1900, p. 141.

Dr. W. T. Eckley. The Intra-mural Sinuses and Nasal Fossae, *Chic. Clinic*, July, 1900, p. 336.

Dr. J. B. Murphy. When to Operate in Appendicitis and Why, *Doctors' Magazine*, July, 1900, p. 93.

REMAINDER OF MRS. C. A. LOGAN'S GIFT.

American Almanac for 1879.

Ashwell, Samuel. Diseases Peculiar to Women, 1845.

Bain, Alexander. Mind and Body, 1873.

Barnes, Robert. Obstetric Operations, 1870.

Beck, L. C. Adulterations of Various Substances used in Medicine and the Arts, 1846.

Bedford, G. S. Diseases of Women and Children, 1860.

Bell, John. Treatise on Baths, 1850.

Bellows, A. J. Philosophy of Eating, 1868.

Blodgett, Lorin. Climatology of the U. S., 1857.

Bostwick, Homer. Venereal Diseases, 1848.

Brillat, Savarin Antheline. Handbook of Dining, or Corpulency and Leanness, 1865.

Broderip, W. J. Zoological Recreations, 1849.

Byford, W. H. Theory and Practice of Obstetrics, 1870.

Carpenter, W. B. Human Physiology, 1847.

" " The Microscope and its Revelations, 1856.

" " Use and Abuse of Alcoholic Liquors, 1858.

Cazeaux, P. Midwifery, 1863.

Chambers, T. K. The Indigestion, 1867.

Channing, Walter. Etherization in Childbirth, 1848.

Chelins, J. M. System of Surgery, 3 v, 1847.

Chile, Republica de. Estadistica Commercial 2 v, 1875, 1883.

Chipley, W. S. Masturbation, 1864.

Churchill, Fleetwood. Diseases of Infants and Children, 1856.

Churchill, Fleetwood. Theory and Practice of Midwifery, 1853.

Cohen, J. S. Inhalation in Treatment of Disease, 1876.

Columbia Hospital for Women. Report, 1873.

Combe, G. Constitution of Man, 1840.

Condie, D. F. Diseases of Children, 1847.

" " Theory and Practice of Midwifery, 1851.

Cone, Mary. Two Years in California, 1876.

Cooke, M. C. Fungi, their Nature and Uses, 1875.

Cooper, Sir Astley. Anatomy and Diseases of the Heart, 1845.

Cooper, Sir Astley. Anatomy and Surgical Treatment of Abdominal Hernia, 1844.

Cooper, Sir Astley. Structure Diseases of the Testis, 1845.

Craik, Mrs. D. M. Muloch. Woman's Thoughts About Women, 1858.

Crookes, William. Practical Assaying, 1873.

Cullerin, A. Atlas of Vernereal Diseases, 1868.

Da Costa, J. M. Medical Diagnosis, 1876, 1884. 2 copies.

Dana, J. D. Manual of Geology, 1863.

D'Aubigné, J. H. M. Faith and Knowledge, 1844.

Davies, N. E. Food for the Fat, 1889.

Day, G. E. Diseases of Advanced Life, 1849.

Dewees, W. P. Physical and Medical Treatment of Children Ed. 10, 1853.

Dobell, Horace. Coughs, Consumption and diet in Disease, 1877.

Dodd, George. Dictionary of Manufactures Mining, Machinery, etc., 1869.

Donné, Alfred. Mothers and Infants, 1860.

Drake, Daniel. Principal Diseases of the Interior Valley of No. America. 1 v. 1850.

Dübens, Gustaf von. Microscopical Diagnosis, 1859.

Dumas, Alexander. Memoirs of a Physician.

Dunglison, R. J. Medical Dictionary, 1874.

Dunglison, Robley. Therapeutics and Materia Medica. 2 v. 1850.

Durkee, Silas. Gonorrhoea rnd Syphilis. E d. 2, 1861.

Ecchevrria, M. G. Epilepsy, 1870.
Edson, Cyrus. La Grippe and its Treatment, 1891
Elliott, G. T. Obstetric Clinic, 1868.
Emmet, T. A. Vesico Vaginal Fistula, 1868.
Erichsen, J. E. Railway and other Injuries, 1867.
Field, G. P. Diseases of the Ear. Ed. 2, 1879.
" " Tinnitus Acrium, 1875.
Flint, Austin. Clinical Examination of the Urine in Disease, 1877.
Flint, Austin. Diseases of the Respiratory Organs, 1856.
" " Physiology of Man. 5 v. 1874.
" " Principles and Practice of Medicine, 1866.
Farmer, James. Headaches and Indigestion, 1828.
Fassett, Frank. Colorado, 1876.
Foote, John. Practitioner's Pharmacopœa, 1855.
Forbes, John. Nature and Art in the Cure of Diseases, 1858.
Fathergill, J. M. Indigestion, Biliousness and Gout, 1881.
" " Manual of Dietetrics, 1886.
Fownes, G. Chemistry, 1847.
Fox, C. B. Ozone and Antozone, 1873.
Fox, Tillbury. Skin Diseases, 1877.
Frazee, L. J. Medical Student in Europe, 1852.
Fry, Herbert. London in 1887.
Gardner, A. K. Treatment of Sterility, 1856.
Gerhard, W. W. Diseases of the Chest, 1846.
Gilpin, William. The Central Gold Region of No. America, 1860.
Graham, D. W. Ed. Illinois State Medical *Register*, v. 3, 4, 1877-78.
Gray, Alonzo. Elements of Geology, 1864.
Gray, Asa. Botanical Textbook, ed. 4, 1853.
" " First Lessons in Botany, 1860.
Green, Horace. Favorite Prescriptions, 1860.
Griffith, R. E. Universal Formulary, 1850.
Groesbeck, John. Critenden Commercial Arithmetic.
Gross, S. D. Foreign Bodies in the Air Passages, 1854.
Grove and others. Correlation and Conservation of Forces, 1876.
Habershorn, S. O. Diseases of the Alimentary Canal, 1859.
Haig, Alexander. Uric Acid, 1892.

Hale, E. E. Kansas and Nebraska, 1854.

Hamilton, F. H. Fractures and Dislocations, 1860.

Hammond, W. A. Diseases of the Nervous System, 1876.

" " Physics and Physiology of Spiritualism, 1871.

Hartshorne, Henry. Principles and Practice of Medicine, 1867.

Hawthorne, Nathaniel. Blithedale Romance, 1865.

Headland, F. W. Action of Medicines in the System, 1859.

Herschel, Sir J. F. W. Meteorology, ed. 2, 1862.

Hewitt, Graily. Diseases of Women, 1868.

Hildreth, Dichard. Theory of Politics, 1854.

Hill, Berkeley. Syphilis and Local Contagious Disorders, 1869.

Hillier, Thomas. Diseases of Children, 1868.

Hitchcock, Edwin. Geology, 1858.

Hoblyn, D. D. Dictionary of Medicine, 1846.

Hodge, H. L. Diseases Peculiar to Women, 1860.

Hodge, D. M. Practical Dissections. Ed. 2, 1867.

Holden, Luther. Dissection of the Human Body, 1868.

Holland, Henry. Medical Notes and Reflections, 1857.

Hooker, Washington. Physician and Patient, 1843.

Horner, G. R. B. Medical and Topographical Observations upon the Mediterranean, 1839.

Hudson, Alfred. Study of Fever, 1869.

Hufeland. Art of Prolonging Life, 1867.

Huff, Gersham. Electro-Physiology, 1853.

Huxley, T. H. Anatomy of Vertebrated Animals, 1872.

" " Physiography, 1878.

Anson. Improving Health and Prolonging Life, 1828.

I. O. O. F. Journal of Proceedings, v. 2, 4, 5, 6, 1868-71.

Ingleby, J. T. Obstetric Medicine.

Jones, C. H. Functional Nervous Disorders, 1867.

Jones, C. H. & Sieveking, E. H. Pathological Anatomy, 1854.

Jones, T. W. Defects of Sight and Hearing, 1859.

" " Opthalmic Medicine and Surgery, 1856.

Jongh, L. J. de. Three Kinds of Cod Liver Oil, 1849.

Kansas State Historical Society. Transactions, 1890.

King, Dan. Quackery Unmasked, 1858.

Kirkes, W. S. Physiology, 1849.

Kölliker, A. Human Microscopic Anatomy, 1860.

Kramer, William. Diseases of the Ear, 1837.

Lardner, Dionysins. Popular Lectures on Science and Art v. 6, 1849.

Lawrence, W. Diseases of the Eye.

Lawson, George. The Eye, 1869.

Lawson, L. M. Phthisis Pulmonalis, 1861.

Laycock, Thomas. Medical Observations, 1857.

Leared, Arthur. Imperfect Digestion, 1875.

Lefferts, G. M. Chronic Nasal Catarrh, 1884.

" " Pharmacopœia for Diseases of Nose and Throat, 1884.

Legg, J. W. Examination of the Urine, 1880.

Leishman, William. System of Midwifery, 1875.

Lewis, Dio. Weak Lungs and how to Make Them Strong, 1863.

L'Isére, Colombat de. Diseases and special Hyglene of Females, 1850.

Logan, C. A. Physics of the Infectious Diseases, 1878.

" " The London Dissector, 1810.

London Medical Society of Observation—What to Observe in Medical Cases, 1855.

Lowell, J. R. Vision of Sir Lannfal, 1851.

Lyons, R. D. Handbook of Hospital Practice, 1861.

Macdonald's Medical Directory, 1891, 92.

Mac Ilwain. Memoirs of John Abernethy, 1853.

M'Intire, James. Astronomy, 1850.

Mac Lagan, T. Germ Theory of Disease, 1876.

McQueen, Hugh. Orator's Touchstone; or Eloquence Simplified, 1860.

Malgaigne, J. F. Operative Surgery, 1851.

Martindale, W. Extra Pharmacopœa of Unofficial Drugs, 1884.

Maury, F. Treatise on the Dental Art, 1843.

Mass. Sanitary Commission—Report, 1850.

Medical News, v. 6, 1848.

Meigs, Diseases of Children. Ed. 3, 1858.

Meigs, J. F. Diseases of Children. Ed. 3, 1858.

Meigs, C. D. Diseases of the Neck of the Uterus, 1854.

" " Obstetrics, 1856.

" " Woman, her Diseases and Remedies, 1859.

Mill, J. S. Principles of Political Economy, v. 1, 1872.

Miller, W. A. Chemistry, 1877.

Miller, James. Practice of Surgery. Ed. 3, 1853.

Millingen, J. G Aphorisms on the Treatment and Management of the Insane, 1842.

Mitchell, J. K. Cryptogamousorigin of Malarious and Epidemic Fevers, 1849.

Mitchell, S. W. Fat and Blood, 1877.

Montgomery, W. F. Signs and Symptoms of Pregnancy. Ed. 2, 1857.

Moorman, J. J. Ohio White Sulphus Springs, 1859.

" " Virginia Springs, 1854.

Munro, Aeneas. Science and Art of Nursing the Sick, 1873.

Murphy, J. G. Chemistry, 1851.

Murray, William. Emotional Disorders, 1867.

Mussey, R. D. Health, its Friends and Foes, 1862.

Napheys, G. H. Modern Theraputics, 1870.

National Quarantine and Sanitary Convention—Proceedings and Debates, v. 4, 1860.

New York, Health. B'd of, Report, v. 2, 1868.

New York State, Homoepathic Medical Soc. of—Transactions, v. 1, 2, 5, 6, 1862-68.

New Sydenham Soc. Biennial Retrospect, 1867.

Nichols, W. R. Manual of Chemistry, 1878.

Niemeyer, Felix von. Practical Medicine, 2 v, 1869.

Nightingale, Florence. Notes on Nursing, 1860.

Norton, W. A. Natural Philosophy, 1858.

Odling, Wm. Practical Chemistry.

Ohio. Geological Survey, 1871.

Paget, James. Surgical Pathology, 1854.

Paine, Martyn. Institutes of Medicine. Ed. 2, 1867.

Parker, E. A. Practical Hygiene. Ed. 2, 1866.

Parsons, Usher. Anatomical Preparations, 1831.

Pavy, F, W. Function of Digestion, 1869.

Pereira, Jonathan. Food and Diet, 1843.

Peters, J. C. Asiatic Cholera. Ed. 2, 1867.

Peterson, R. E. Scientific Explanation of Common Things 1851.

Pharmacopœia of the United States, 1863.
Phillips, Benj. Scrofula, 1846.
Physic and Physician; a medical sketch book.
Physician's Prescription book, 1851.
Pickford, J. H. Conical Cornea, 1844.
Pilcher, George. The Ear, 1843.
Quain, Richard. Dictionary of Medicine, 1882.
Ramsbotham, F. H. Obstetric Medicine and Surgery. Ed. 4, 1847.
Raspail, F. V. Manuel Annuaire de la Santé, 1851.
Renouard, P. V. History of Medicine, 1856.
Ricord, Philip. Illustrations of Syphilitic Disease, 1852.
Ricord, Samuel. Venereal and other Diseases, 1849.
Roberts, Williams. Dietetics and Despepsia, 1885.
Rollin, Charles. Ancient History, v. 2, 1853.
Roush, C. H. F. Overwork, 1876.
Royle, J. F. Materia Medica and Therapeutics, 1847.
Ruppaner, Antoine. Hypodermic injections in diseases, 1865.
Sayre, L. A. Treatment of club-foot, 1869.
Schützenberger, P. Fermentation, 1876.
Short system of polite learning,
Simon, John. Filth diseases and their prevention, 1876.
Simon, John. General pathology, 1852.
Simpson, J. Y. Anæsthesia, 1849.
Simpson, J. Y. Diseases of Women, 1863.
Simpson, J. Y. Obstetric memoirs and contributions, 2 v. 1856.
Slade, D. D. Diphtheria, 1862.
Smith, Albert. The London Medical Student, 1861.
Smith, Edward. Foods, 1873.
Smith, H. H. Anatomical Atlas, 1849.
" " Minor Surgery, 1843.
" " Operative Surgery, 2 v. Ed. 3, 1856.
Smiles, Samuel. Seif-help, 1870.
Solly, Samuel. The Human Brain, 1848.
Somerville, Mary. The Connection of the Physical Sciences, 1862.
Squirer, E. G. Nicaragua; its People, Scenery and Mountains, 1860.
Squier, E. G. Notes on Central America, 1855.

Statesman's Yearbook, 1882.

Stearns, C. W. Shakespeare's Medical Knowledge, 1865.

Stephens, J. L Incidents of Travel in Central America, Chiapas and Yucatan, 1877.

Stillé, Alfred. General Pathology.

Swallow, G. C. Missouri Geological Survey, 1855.

Swayne, J. G. Obstetric Aphorisms, 1870.

Tanner, T. H. Clinical Medicine, 1856.

Tarbell, J. A. Source of Health, 1850.

Taylor, A. S. Poisons in Relation to Medical Jurisprudence and Medicine, 1848.

Thomas, T. G. Diseases of Women, 1868.

Thomas A. T. Domestic Management of the Sickroom, 1845.

Tilt, E. J. Elements of Health, 1853.

" " Uterine and Ovarian Inflammation. Ed. 3.

" " Uterine Therapeutics, 1864, 1869, 2 copies.

Timbs, John. Doctors and Patients, 2 v. 1873.

Todd, R. B. Clinical Lectures on certain Acute Diseases, 1860.

Todd, R. B. Paralysis Disease of the Brain.

" " & Bowman, W. Physiological Anatomy, 1857.

Tosswill, L. H. Diseases and Injuries of the Eye and Eyelids, 1884.

Toynhic, Joseph. Diseases of the Ear.

Travers, Benj. Constitutional Irritation, 1836.

Tripler, C. S. & Blackman, J. C. Handbook for the Military Surgeon, 1861.

Tröltsch, Anton von. Diseases of the Ear, 1869.

Troussean, A. Clinique Médicale de h'hotel Dieu de Paris. Ed. 2, 3 v, 1865.

Tyndall, John. Forms of Water in Clouds, Rivers, Ice Glaciers. Ed. 3, 1873.

U. S. Congress. Revised Statutes of the U. S. passed at the 1st Session of the 43rd Congress, 1873-74.

U. S. Dispensatory. Ed. 10, 1854.

U. S. Engineer, Corps of. Report of Geographical and Geological Explorations and Surveys west of the 100th Meridian, v. 3, 5, 1875.

U. S. Geological Survey. Bulletin, 1884.

U. S Interior Dept. of. Report of U. S. Mexican Boundary

Survey, 2 v, 1859.

U. S. Navy Dept. of U. S. Naval Astronomical Expedition to the Southern Hemisphere, v. 1, 1855.

U. S. Surgeon, Gen. Office. Medical and Surgical History of the War of the Rebellion, 3 v.

U. S. Surgeon Gen. Office. Statistical Report of the Sickness and Mortality in the Army of the U. S., 2 v, 1856, 1860.

U. S. Treasury Dept. Report of Geological Survey of Wisconsin, Iowa and Minnesota, 1852.

U. S. War Dept. Statistics Medical and Anthropological, 2 v, 1875.

Vanx, Calvert. Villas and Cottages, 1864.

Valpean, A. L. M. Operative Surgery, 1847.

Vestiges of the Natural History of Creation, 1864.

Vidal, A. Venereal Diseases, 1859.

Virchow, Rudolf. Cellular Pathology, 1858.

Vogel, Alfred. Diseases of Children, 1870.

Vogel, Julius. Pathological Anatomy, 1847.

Watteville, A de. Medical Electricity. Ed. 2, 1884.

Wayland, Francis. Pursuit of Knowledge under Difficulties, 2 v, 1859.

West, Charles. Diseases of Infancy and Childhood, 2 v, 1850. Ed. 4, 1854.

Whately, Richard. Lessons on Reasoning, 1852.

Whelpley, Samuel. Compend of History, 1845.

Whitehead, James. Abortion and Sterility. Ed. 2, 1854.

Whittaker, J. T. Student's Primer on Urine, 1880.

Williams, C. J. B. Diseases of the Respiratory Organs, 1845.

" " Principles of Medicine.

Wilson, Erasmus. Cutaneous Medicine, 1865.

" " Diseases of the Skin. Ed. 2, 1847.

Wilson, George. Inorganic Chemistry, 1872.

Wood, Alphonso. Classbook of Botany, 1852.

Wood, G. B. Practice of Medicine, 2 v, 1858.

" " Therapeutics and Pharmacology, or Therapeutics, 2 v. 1856.

Yearly. James. Artificial Tympanum, 1862.

" " Throat Deafness, 1851.

Zurcher & Margolle. Volcanoes and Earthquakes, 1874.

BOOK REVIEWS.

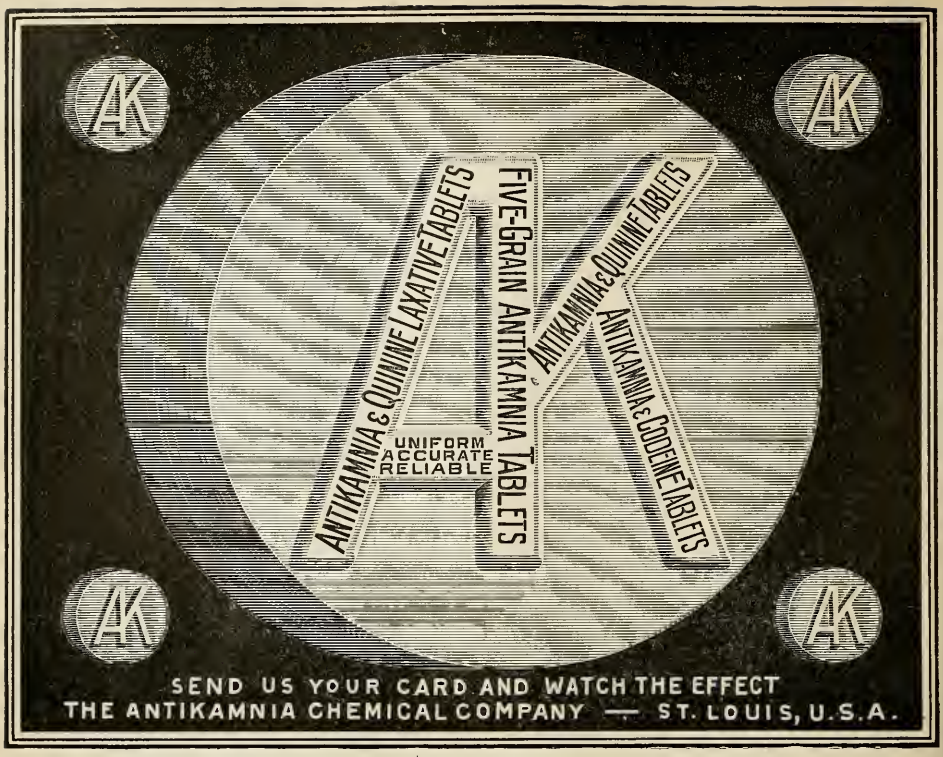
We were very much pleased to receive Dr. Lydston's new text-book of "Genito-Urinary, Venereal and Sexual Diseases," published by the F. A. Davis Co. It is certainly the most complete work ever published and Dr. Lydston is to be congratulated upon the success of his vast undertaking and his excellent manner of putting into book form this vast but intricate subject into a practicable way. It contains 1011 pages with 235 complete illustrations. The part I treats of general principles of "Genito-Urinary, Sexual, and Venereal Pathology and Therapeutics.

Part	II	Non-Venereal Diseases of the Penis.
"	III	Diseases of the Urethra and Gonorrhea.
"	IV	Chancroid, Bubo and their Complications.
"	V	Syphilis.
"	VI	Diseases Affecting Sexual Physiology.
"	VII	Diseases of the Prostate and Seminal Vesicles.
"	VIII	Diseases of the Urinary Bladder.
"	IX	Surgical Affections of the Kidney and Ureter.
"	X	Diseases of the Testis and Spermatic Cord.

"Brain in Relation to Mind," by Dr. J. Sanderson Christison, formerly of the New York City Asylums for the Insane, etc., received. It is a volume of over 100 pages, covering an extremely large field, dividing the subject into three different subjects, viz., "The Insane" (defective in reason), "The Moral Paretic" (defective in self control), and "The Criminal Proper" (defective in conscience).

"Crime and Criminals," another volume by the author of the above in which he cites the problem of criminals and their crimes in a practical way as only Dr. Christison can do.

"Practical Urinalysis and Urinary Diagnosis," by Chas. W. Purdy, LL. D., M. D., of Queen's Univeristy, and published by F. A. Davis Co. The most complete manual for the use of the physician, surgeon and student alike, ever published.



TRUAX, GREENE & CO.,

Physicians' and Hospital Supplies, Surgical Instruments.

The largest and most complete Physicians' Supply House in the World!

—

TRUAX, GREENE & CO.,

46 WABASH AVENUE, Bet. Lake and Randolph Streets.

WM A. FISHER, M. D., Pres. JOHN R. HOFFMAN, M. D., Sec

A. G. WHIPPLE, M. D., Vice Pres.

Chicago Eye, Ear, Nose and Throat College.

A Clinical School for Practitioners of Medicine.

Equipment unexcelled. Abundant material. Clinical instruction. Courses one month in duration. Practitioners may enter at any time. Equal advantages the year round. Write for catalogue and information to

JOHN R. HOFFMAN, Secretary, Trude Bldg., 67 Wabash Ave., Chicago.

L. HARRISON METTLER, M. D.
Professor of Physiology of the Nervous System,
College of Physicians and Surgeons, Chicago.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. SEPTEMBER 20th, 1900. NO. 5.

MYELINATION AND MENTALIZATION.

L. HARRISON METTLER, A. M., M. D.

Professor of Physiology of the Nervous System in College of Medicine, University of Illinois.

The relationship between mind and matter is still largely a subject of speculation. Metaphysicians have analyzed the mind and anatomists have dissected the brain; but in spite of our increase of knowledge, we cannot yet say how the material brain produces mental phenomena. Between the gross materialism which declares mind to be a product of brain activity the same as bile is the product of the liver, and the spiritualistic or transcendental notion which pictures the relationship of mind and brain as somewhat similar to that of a ray of light glinting through a rent in a curtain, there is a wide gulf which science has thus far failed to bridge. This is due largely to the fact that mind has not yet been accurately defined and its place of origination within the nervous apparatus still remains undetermined.

Some recent observations, however, are pointing out in no unmistakable way that the fibro-cellular structures of the central nervous system are more emphatically responsible for the manifestations of mentalization than many have hitherto been willing to admit. Without going so far as Bain, who correlated thoughts so closely with cortical cells as to completely and absolutely identify every mental concept with an individual

cell, we must admit, in the light of the more recent physiology of the brain, that through fibro-cellular activity, *and in no other way* mind reveals itself.

Since the advent of the neuron theory, some radical changes have had to be made in our conception of the physical basis of mind. The details of the new view have not yet been completely worked out but enough has been accomplished to show that the cortical cells are not, as heretofore supposed, the products in themselves of mental phenomena. These cells are the bodies of the corresponding neurons and in all probability their particular function is nutritional. If they subserve any purpose at all in the direct production of mentalization, their importance is at least equalled by that of the associated fibres. As Edinger (1) well puts it, "probably it will be proved when we at last recognize a fixed type for all the parts of the cortex and all ages of life that definite relations exist between the intelligence of the individual and the number of fibers in his cortex." The neuron in its entirety, therefore, constitutes the physical basis of mind.

Curiously enough, it has been discovered that the functional activity of the neuron, in so far as it is a nerve unit, depends to a very large extent upon the presence of the white substance of Schwann. Perhaps this is not precisely the way to state it but rather to say that when certain neurons begin their functional activity, their neuroxons acquire their so-called myelin sheaths. It will be remembered that Flechsig made use of this fact to enable him to trace out certain continuous tracts in the brain and cord of the fœtus and infant. It used to be taught that the white substance of Schwann served as a sort of insulator to the axis-cylinder but now it is known that it has a higher and more vital function than this. The appearance of the myelin sheath, which as everybody knows, consists of a complex, phosphoretted, fatty substance, occurs in certain cerebro-spinal tracts of the fœtus with a remarkable degree of persistency and regularity. It likewise disappears with an equally surprising regularity in old age. Its presence bears a direct relationship to the functional activity of the neuron; and therefore, we are forced to recognize at least a correlation of function and myelination.

1). Anatomy of the Central Nervous System, edited by Hall, 1899, page p. 233.

Dr. Mott (2) points out that the afferent-projection fibres are myelinated before the efferent, usually at birth. These bundles of fibres, namely, those conducting tactile, articular, muscular, and visceral sensations by way of the posterior columns, fillet, thalamus, and corona all exercised in the fœtus in utero in conveying impressions from the skin to the receptive centers about the Rolandic fissure. In the new born child myelination has generally been accomplished only in the lower centers of the cord, medulla; pons, corpora quadrigemina, optic thalamus and a few particular areas of the cortex, these areas all being in the immediate vicinity of the great primary fissures. Held (3) has shown that stimulation exerts a most important influence upon myelination. In animals which are born blind (cats, dogs, rabbits) this experimenter admitted light for varying periods into the eye. The optic nerves of both sides were then carefully examined under the same conditions and a greater myelination was noticeable on the side that had been exposed to the light. These and other observations prove conclusively the remarkable correlation between function and myelination.

According to Flechsig, about two-thirds of the cortex cerebri consists of *neurons of association.* These are for the most part *new association pathways* or "at least pathways which, only called into use late in life, become medullated at a late period." The discoveries of Kaes demonstrate that the number of these medullated fibers in the cortex increases for a long time, even to the fortieth year and longer, but they diminish in old age. Since increase of development is seen in other tissues of the body as a result of exercise, it is not to be wondered at that the the same cause should effect the same result in the nervous tissues. The question that is still unsolved, however, is that of the essential nature of this correlation of function and myelination. Does the function result from and depend in any way upon the presence of the myelin sheath or does the myelin sheath appear as the result of the function?

Mentalization, in its last analysis and in its briefest possible definition, consists of the associating, comparing and balancing

(2). Degeneration of the Neurone. The Croonian Lectures, by Frederick W. Mott, M. D., etc. The Lancet, June 23, 1900.

(3). Archiv fur Anatomie and Physiologie, Abtheilung 1893. Quoted by Mott.

of recent residual sensory-motor impulses. Even Kant's innate conceptions of *time* and *space*, however, they may originally have been acquired or arisen, involve more or less the notion of movement and sensation. The growing mind develops and is developed pari passu with the increasing number of new afferent impulses that constantly pour in from all parts of the body. This process continually opens up new medullated tracts. In marshalling, contrasting and rearranging all these new implses, the cerebral cortex develops new association pathways as shown by their simultaneous myelination. If the mental phenomena declare themselves in outward acts and in the form of body movements, the newly myelinated tracts will gradually appear in the efferent projection system as well as in the afferent.

Thus we have presented a scheme, far from perfect to be sure but yet far more rational and scientific than anything that has hitherto been suggested, by which one may study the physical basis of mind, of intelligence and of all those psychic manifestations which fall under the general heads of memory intellect, will, imagination, etc.

100 State Street.

F. GREGORY CONNELL, M. D.,
Adjunct Professor of Clinical Anatomy and Instrustor in Surgery. College of Physicians and Surgeons, Chicago.

PROGRESS IN SURGERY.

By F. Gregory Connell, M. D.

Adjunct Professor of Clinical Anatomy and Instructor in Surgery College of Physicians and Surgeons. Chicago.

The closing of a century brings with it a natural desire to look forward; hoping to see, as if in a mirage, what that wonderful space of time—the next century, may bring forth.

At the same time, the old or present century still clings, bringing further offerings, as if loath to yield its place in the cycle of time, and demanding a backward glance. To judge of the future we must review the past.

Standing today on the thereshold of the 20th century, we have no fear of stretching or sullying the truth when we make the statement that more progress has been made in the present century, in all branches of science, than in any, or all preceding centuries. And if this be true in the main when applied to each of the branches of science, so is it also true of the subdivisions or branchlets as they may be termed.

We cannot even think of the future of the surgical branch of science without a look into its past history, to study it, analyze it as if by knowing what has gone before, we may be prepared for greater things to follow.

Accounts of the wonderful progress made during all time, but of the present century and closing decade in particular, are to be found at length in almost any of the contemporaneous journals. This retrospective trend of mind is becoming it seems, almost epidemic, due in all probability to the fact that we are about to witness the closing of the greatest—the 19th—and welcome the beginning of what we all believe to be still greater—the 20th century.

We read in these accounts of the old masters, of Hippocrates, Galen, Vesalins, Pare, Harvey and many others, but the most marked stress we find is placed upon the many wonderful achievments accomplished during the 19th century. For example, the introduction of anæsthesia by Morton in 1846, using sulphuric ether, which despite our fifty years and more of most remarkable progress and ingenuity, has still to be superseded,

in the minds of many, by a safer agent in producing general anæsthesia.

The importance of this remarkable discovery cannot be easily overestimated, because it does not only relieve the patient from actual suffering, and in this way make possible many procedures which were impossible of performance before the introduction of anæsthesia. But, at the same time it relieves the operator from proceeding in undue haste and in consequence his work is more deliberate, more accurate and similarly by the fact that the patient is certain to remain immovable—operations requiring the most delicate technic and skill, owing to the proximity of important structures, can be performed with impunity.

The rapidly increasing use and widening of the field of local anæsthesia, is of importance too, as at the present time under the infiltration or Schleich method, such operations as laparotomy and herniotomy are being daily performed, which heretofore had been done always under general anæsthesia.

And quite recently Tuffier of Paris has reintroduced and applied to surgery the method of abolishing sensation throughout the lower part of body, while the patient still retains perfect consciousness which was discovered by Leonard Corning in 1885 and consists of the introduction of a freshly prepared and sterilized 2% solution of cocaine between the forth and fifth lumbar vertebra, into the spinal canal. In from four to ten minutes after the injection, anæsthesia is present and persists for from 1½ to 2 hours. Tuffier reports operations upon 170 subjects rendered anæsthetic by this method.

The operative procedures performed varying from minor surgery to abdominal section, and all major operations. He has met with no accident, and no bad after effects except a slight and transient nausea in the majority of his cases.

This method is meeting with rapid approval and popularity and is being employed in many of the large cities in this country. If found to be generally practical it will be of great value to the emergency operator with insufficient assistants and will of course be applicable in advanced cases of diseased heart, liver or kidney. At the same time it may probably do away with that small, but ever present mortality rate accompanying general anæsthesia.

The matter of hæmostasis is one of the greatest importance, and will not be omitted in any review of the advancements made

in surgery. This accomplishes a two-fold advantage—that of aiding by preventing loss of blood, in eliminating shock and infection, and of equal consequence that aid given to the operator, by rendering the field of operation practically free from blood, thus enabling the surgeon to exercise that sense (which if of no greater value is equally so with touch) that of sight, which had formerly been almost confined to postmortem operating. The tourniquet and constrictors were well known but it was not until Esmarch presented his elastic constrictor as a method of preventing hemorrhage that the fact was accomplished.

Senn in introducing Prof. Esmarch to his class in Chicago, said of him "The surgeon who has transformed the bloody operating theatre into a dissecting room."

The use of the hæmostatic or snap forceps which are so variously modified at the present time, are indispensable agents in preventing hemorrhage in locations where the constrictor cannot be applied. These also have the same two points of recommendation.

The arresting of active hemorrhage by means of ligature was first recommended by Galen, but it seemed to have been forgotten till again brought before the profession by Ambrose Pare in the 16th century, who applied the ligature to divided vessels in amputation as a substitute for the crude method in which actual and potential cautery were used as a styptic. He believed this method of arresting traumatic hemorrhage to be new and to have come to him by inspiration. He says: "I think it was taught me by the special favor of the Sacred Deity for I learned it not from masters, nor from any other, neither at any time have I found it used by anyone." He then adds: "Only I have read it in Galen that there was no speedier remedy for staunching of blood than to bind the vessels through which it flowed, towards their roots, to wit, the liver and the heart."

These ligatures were left long and allowed to hang from the wound.

It was not till the time of Lister and the absorbable suture material that the ligating of vessels approaches its present approximation to perfection. Though this state of apparent perfection. is being encroached upon by the angiotribe which consists of a large forcible clamp capable of exerting great pressure; this crushes the tissues in such a manner that hemorrhage is com-

pletely checked, thus doing away with the necessity of either clamp or ligature.

In 1867 Prof. Lister first published his method of Antiseptic Wound Treatment, from which dates the most wonderful advances in surgical procedures, the method, crude to us at the present day, that of surrounding patient and operators with a vapor loaded with carbolic acid, is still the fountain head, from which our present day aseptic technic of operative procedure had its origin.

Likewise from this as a starting point we may trace the subbranches of our science, bacteriology, and to a lesser extent pathology, to their comparatively advanced, but still actually undeveloped state of today. Then the most recent of all great discoveries that of the X-ray by Roentgen, by means of which the seemihgly impossible is rendered possible, is certainly a fitting finale to the series.

After this brief resumé of some few of the most important advancements made, it is at once possible to imagine that the future has equally startling if not more marvelous revelations in store for us and those to follow. Especially so when we consider the many branches of the science which can date their origin back to the present decade. These of course will be heard from as well as those which seem to be almost perfection at the present time.

But in this picking out the epoch-making advances more or less at random, and in considering them thus briefly, we do not grasp the same idea, nor have it so well impressed upon the mind, that might be conveyed if a single subject were taken up for review, and studied more thoroughly from beginning to end.

The subject of intestinal sutures has always been a fruitful one and will show in a characteristic manner the advances made and the manner in which they have been accomplished.

Before taking up the various methods of intestinal suture in detail, it will be conducive to a more thorough understanding of the advancement gained to outline the gradual steps of progress made, as they appeared.

The first and original method of treating intestinal wounds consisted of a waiting policy, "the masterly inactivity" of today. Our medical forefathers knew well the saying, and practiced it, in at least this instance "When you don't know what to do, do nothing." The usual result of such treatment was death; next

in frequency but rare recovery with fecal fistula, and still more rarely, perfect recovery.

The observing surgeon, noticing the occurrence of fecal fistula or artificial anus after injury to intestine, was tempted to anticipate nature as it were, by bringing the divided ends of intestine into the abdominal wall, anchoring them there, and so forming an artificial anus.

Life with a fecal fistula or an artificial anus being far from pleasant, we soon find attempts to effect the complete and perfect union of the bowel, with no opening at the abdominal wound, and the fecal current re-established. This was accomplished by many methods, the most prominent of which are the Gloves suture (where needle and thread are alone employed) and the Method of the Four Masters, one of the pioneers in the use of foreign bodies as an aid.

But at this stage of development we find that the suture employed in closing the wound in gut, is left long and brought through the abdominal wall for the double purpose of 1st, being able to remove suture material after union is completed and 2nd, in causing wounded gut to adhere to the abdominal wall, thus bringing about an adhesion of visceral to parietal peritoneum, and reducing the danger of infecting the free peritoneal cavity, if the suture was not sufficient to prevent leakage, or a perforation should take place.

With these precautions, if either of the above occurrences should take place (which were not rare in those days) the most unfavorable outcome, as a rule, would be fecal fistula.

Up to this time we find in the methods of intestinal repair presented, an effort to unite the divided intestinal wall in a manner similar to that in which other structures of the body are united *i. e.* by apposition of histological elements layer for layer, serosa to serosa, muscularis to muscularis, mucosa to mucosa.

In speaking of this Otis says: "The direct approximation of the cut surfaces sought by the old masters is theoretically sound although the obstacles to its accomplishment seem insurmountable."

In 1826 we find a new principle presented to intestinal surgeons. That inculcated by Lembert, (though the credit of first discovering and pointing it out has been questioned by Jobert and Denans, but the majority of surgeons seem to give the credit

to Lembert) of causing union in such a manner that the serous coats are brought into apposition, and that the suture material does not penetrate into the lumen of gut, entering only the serosa. No single suture should penetrate both serosa and mucosa, it being supposed that infectious material from septic lumen of bowel would be conveyed to the serous coat and so be liable to give rise to a peritonitis local or general.

The object of the sero-serous apposition was the formation of a more firm and a more rapid union than by the older method, and by inverting a portion of both cut edges, they acting similar to a valve, were found effective in preventing leakage of fecal contents.

The so-called Lembert principle, sero-serous apposition, has been almost universally adopted.

Some few methods have been presented to the profession in which the aim is to obtain a sero-fibrous union; that is by invagination (stove piping) after removing the mucosa from the intussuscipiens, but these procedures are rarely performed, and the great majority of surgeons still adhere to the sero-serous apposition in intestinal suturing.

The particular method in many instance making but little difference, either the interrupted Lembert stitch, proper; a double or mattress suture, a continuous suture, or by use of one of the various foreign bodies, the one essential being sero-serous coaptation.

The original Lembert stich penetrated only the serosa or peritoneum, the object of excluding other coats being as stated above, the avoidance of the danger of penetrating into the lumen of the canal.

In order to strengthen this necessarily weak stitch a row of stitches including muscularies and mucosa were inserted first, and then the row of Lembert stitches external to the first mucous or Czerny stitches, thus effecting sero serous apposition by what is termed the Czerny-Lembert stitch.

Halsted pointed out the fact that the sub-mucosa was the particular tunic which had texile strength, was the coat which held the strength of the gut wall, and called attention to the fact that catgut is the submucosa of sheep after the mucosa has been removed from one side, and the muscularis and serosa from the other.

He performed experiments demonstrating that the muscularis and serosa offered but little opposition to the tearing through of a stitch, while the submucosa greatly resisted any such tendency. Hence his recommendation which has been quite generally adopted, that Lembert stitches penetrate the submucosa but not the mucosa.

The next step is not a comprehensive one--that stitches penetrate all coats of bowel wall as is seen in the Maunsell method which we will consider in detail later on.

With these later methods of which we have been speaking, came better results, and naturally more confidence, and in this epoch we find that instead of anchoring the site of union at the abdominal wound, it is dropped back into the free peritoneal cavity.

In most of these methods the knots of the sutures are on the external surface of gut wall, the serosa in the free paritoneal cavity.

With the advent of the mechanical contrivances such as Senn's Decalcified Bone Plate and the Murphy Button we find another location for the knots of the sutures. The knot is buried deep between the apposed serous surfaces so as to be scarcely if at all visible on the serosa.

Finally another location is selected and at the last find the *knot within the lumen* of the gut, situated on the mucosa.

We have thus far brought in review: The union by accurate approximation of histological layers; the union by sero-serous approximation; the union by sero.fibrous approximation; the gradual increase of tissue inclvded in the suture, and the gradual immigration of the knot.

We are now ready to take up some of the methods in more or less detail,

In the early writings on Surgery, we find but little literature on the subject of intestinal suture. In the works of Celsus the subject is but mentioned. Another early writer states that in India crabs had been employed in closing intestinal wounds. The animal being applied to the wound margins in such a manner that the claws or pincers when closed, included and held them in opposition. When firmly attached the body was removed from the pincers, which were allowed to remain until separated by sloughing. In the few cases in which an effort was

made to unite the divided intestine direct, the Glovers' suture was the stitch employed.

In the 13th century the method of the Four Masters had taken a position, and from this earliest chapter of intestional surgery, we find two methods in use, as we do today. One method in which the suture alone is used, and another in which a foreign body of some description is employed as an aid.

To speak of the various methods employed at different times in the history of the subject it will be necessary on account of their number to classify them somewhat briefly, as follows:

Foreign Body—1, Four Masters; 2, Invagination; 3, Bone Plate; 4, Murphy Button.

Suture Alone—1, Glovers; 2, Invagination; 3, Lembert; 4, Knot Inside.

FOREIGN BODY.

One of the earliest instances in which a foreign body was used as an aid in intestinal suture consisted of the so-called "Method of the Four Masters," the four masters being celebrated monks who practiced medicine and surgery in Paris durieg the 13th century.

The trachea of a goose was used as a bridge; the cut ends of the intestine were pulled over the cylinder, and when in apposition, were united by sutures. This method has been extensively modified and improved upon. Among the earliest to do so were Du Verger, Ritch, Sabatier and Guy de Chauliac.

But at a more recent date surgeons have used the same principle, adding to it the advantages gained by the use of Lembert's principle and the antiseptic wound treatment.

Many substances have been employed and recommended to replace the goose trachea of the original method, such as the oiled card-board of Sabatier, and the dry gut by Guy De Chauliac; also the use of isinglass by Watson; gum resin by Walther-dough by Hohenhauser; "Digestible Wafer Cylinder" by Wakerhagen; candy by Metcalf; decalcified bone by Neuber, Wily Sachs, Mayo Robson, Bailey, Allingham, Hayes and Ball; pota toe by Pilcher, and India rubber by Clark.

Inflated rubber bulbs were used originally in 1882 by Fred'k Treves, of London, and brought before the profession at a later date by Reder, Downes, Halsted and Wakerhagen.

In the methods advanced by these surgeons, except that of

Wakerhagen, the bulb is to be collapsed and removed before the last stitch is inserted. Wakerhagen recommends that the bulb be punctured and then after collapse be allowed to pass away with the feces.

The original method of union by invagination was performed without the aid of foreign bodies, but by many a foreign substance has been added to the procedure in an aim to aid in producing and maintaining the invagination, and at the same time as a factor in preventing post-operative continuance of the intussception.

Among the more prominent methods we find Benj, Bell employing a cylinder of tallow; Chopart and Desault, card board; Amussat and Choise, cylinder of cork; Paul and Jessett, decalcified bone tube; Senn, flexible rubber ring; Robinson, rubber tube.

The foreign body was further employed in carrying out the Lembert principle of serosa to serosa when the plate was applied in lateral anastomosis, the object here being to bring a broader surface of the serosa in opposition and at the same time greatly reduce the time consumed in other methods.

In 1887 the decalsified bone-plate was presented to the profession by N. Senn. The work he then reported aroused an interest which was practically the beginning of experimental intestinal and abdominal work in this country. The method met with marked approval, and was very extensively modified, the same principle being carried out by many experimenters, as will be seen in the use of cat-gut rings by Abbe, Ashton and Beaver; cat-gut mats by Davis; drumsnare rings by Matas; rubber rings by Ashton, Brokaw and Robinson; bone rings by Paul; rubber plates by Brokaw; rawhide plates by Robinson; cartilege plates by Stamm: potato plates by Dawbarn; turnip plates by Von Barcaz and Jordon; decalcified bone plates by Littlewood; chromicized gelatine by Shrively and Simonson.

J. B. Murphy in 1892 presented his mechanical contrivance originally called "Anastomosis Button", but now known throughout the world as the Murphy Button, and needs no description here. It too has been modified and imitated, the aim being to produce a contrivance which might be equal in all respects, and yet have in addition the one feature only which the Murphy Button might be said to lack, that of solubility. The one so perfect has not as yet been presented to the profession.

Ramange and Chaput each brought out a contrivance similar to the Murphy Button, some of the other modifications were by J. Frank, decalcified bone button; Miller, decalcified bone button; Gill, decalcified ivory discs with pressure obtained by elastic bands; Metzler, decalcified bone button, with male and female tubes made of exploded cartridge shells; Stimson, potato button.

As early as 1826, we find a device similar in many respects to the Murphy Button, yet in fact entirely different. The Denans contrivance, which consisted of three rings, two of an equal size, and the third which was broader, more like a tube, slit longitudinally so that it could be made larger or smaller, and when in place exert pressure. Of the similar rings one is inserted into the lumen of each end, and the margin inverted over it; then the third ring is inserted into the lumen and the ends brought in contact over it. The serous surfaces in contact unite and in due time the foreign substance sloughs away.

Baudens contrived a method similar to that of Denans.

SUTURE ALONE.

The first intestinal suture—the Glovers, suture—was the stitch of the glove makers, the needle passing from without, in on one edge of wound and then from within out on the opposite side, and repeated continuously. The ends were left long and brought out of abdominal wound.

The modifications are as usual numerous but unusual, in that all are unimportant. Having been employed before the time of either Lembert or Lister, they are at the present day entirely abandoned and of only historic value. The more or less striking modifications were made by Larry, Garengost, Bertrandi and Petit, Benjamin Bell, LeDran and Richter.

Union by invagination we find under both grand divisions of this classifications,

The first authenticated case of recovery following enterorrhaphy for complete transverse division of gut was performed by Ramdohr about 1730, who united the bowel by inserting the proximal cut end into the distal, and maintaining the invagination by the use of one stitch at the convex border.

The lack of a similar success after repetition of the procedure, led to various modifications.

Louis removed the mesentery from the proxinal end, thus making disinvagination less probable.

Jobert, with whom Lembert must divide the honor of first performing union in such a manner as to obtain sero-serous apposition, as a preliminary step inverted the distal end, thus lining the tube with serosa; into this he inserted the proximal end, thereby bringing the two serous coats in distinct relationship.

Chaput disregarded the dictum of Lembert and Jobert concerning the serous coat, and obtained a sero-fibrous, or sero-muscular union by scraping away the mucosa of intussuscipiens, and then inserting the intussusceptum. His results were far from satistory, but Harris of Chicago, in 1892 improved upon his method and attained most excellent results.

Nicoll and Skelly likewise presented very simitar methods.

The suture which is in almost universal use at the present time is the Lembert, in which the needle passes transversely to the wound through the peritoneal and muscular coats on same side; then carried across the wound and made to penetrate the two outer coats as before, and ends tied.

This suture has been modified very extensively such as by using it continuously as did Dupuytren, or right angle stitch of Cushing, and the matress or quiet suture of Halsted.

Others less commonly used are those named after Breidenbach, Gely, Blantin, Emmert, Gussenbauer, Appolito, Greig Smith, Lewis, M. E. Connell and Ferguson.

The methods which place knots on the inside are not so numerous as in some other subdivisions of the subject. Among the earlier methods with this feature may be mentioned Vesein, Bishop, Kummer and Czerny, who added the row of mucosa stitches to the Lembert, making the so-called "Czerny-Lembert stitch."

Maunsell who united the divided intestine in a manner immitating the method of a tailor when sewing a sleeve in a coat, was the first to place all knots at the site of the enterorrhaphy, in the lumen of the bowel. But in doing so a longitudinal incision was made on convex border of gut which he closed by suture having the knots on the outside.

Ullman modified Maunsell's method. After the invaginated edges of wounds present themselves at the longitudinal incision, instead of suturing them together, a hollow cylinder of carrot is inserted, and around this carrot and the two invaginated ends a

circular ligature is placed and tied; the invagination is then reduced, and the second incision closed as in the Mannsell.

Cheatle has recommended that the longitudinal incision be made continuous with and at right angles to the circular incision and be closed in a transverse direction, thus enlarging the caliber of the bowel at the site of union by utilizing the principle of the Heineke-Mikulicz pyloroplasty.

Wiggin modified the Maunsell method, by dispensing with the invagination and the second incision, and uniting as much as possible with knots on the inside, then, closing the remaining portion, by means of Lembert stitches.

In the method presented by the writer in the *Philadelphia Monthly Medical Journal*, January, 1899—all knots, whether a continuous or an interrupted suture be employed in making the enterorrhapy—are within the lumen of the bowel.

Experimentally this method has yielded satisfactory results and since publication of the original articles it has been employed on the human subject.

In circular enterorhaphy twice, pyloroplasty once and pylorectomy once.

All of these made uneventful recoveries except the pylorectomy in which death resulted on the following day from shock. No evidence of defective suturing being present.

The above methods do not completely cover the entire field of intestinal surgury, but the majority are spoken of and show the gradual yet substantial improvements made in the two subdivisions of the subject.

If retrsopection brings forth so much, what may be said for the prospective side of this interesting question; that its future is bright and filled with promise, certainly.

The suture is passing through a period of evolution; the elements. that are to make up the universally accepted method, are gradually being developed. Extravagant claims are disregarded, reasonable claims are considered, weighed and approved of, at what now appears a proper valuation; objectionable points are being removed, and undesirable methods will gradually fade in popularity.

The danger of "Lembert stitches yielding," of "penetrating beneath the submucosa," of "capilarity when all coats have been penetrated;" these and questions of equal importance will be dc-

cided in the immediate future, after which a simplified method, based on this finding, will be accepted, and a single universally recognized procedure will be adopted as standard.

The "foreign body" too, is receiving and will continue to receive its due share of attention. The Murphy Button, simple as it now appears, will be simplified still more; reducing in weight, and above all it will be entirely soluble.

A late procedure, which is of interest as going to show the trend of possibilities in this line, is found in the series of experiments on dogs and rabbits by an European surgeon, whose line of attack is, to say the least, unique, and may possibly render obsolete both the suture and the button.

Katzenstein, by the aid of a substance called glutencasein, unites the divided intestine in about the same manner and with as little ceremony as we now cement together two pieces of rubber tubing.

At first glance it would seem that little more could be accomplished along this line, but on second thought one sees at once the possibility, the necessity, and the certainty of the question being cleared up.

It is for those who are now students, to bring this desired result about and the only way in which it can be realized is by means of animal experimentation.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.

H. C. WADDELL, '03, Editor-in-Chief.

L. HARRISON METTLER, M. D., D. N. EISENDRATH, M. D.,

W. A. EVANS, M. D., A. GEHRMANN, M. D.,

Associate Editors.

Class Editors:

C. W. BURT, '01, PAUL E. GRABOW, '02, GUY C. WAUFLE, '03.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. COATES

Alumni Editor, DR. C. C. O'BYRNE, '94 Clinical Department, JOS. ZABOKRTSKY, '01

Advertising Solicitor, GEO. E. ROSENTHAL, '02.

Publisher, - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE,** 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers willnot hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

EDITORIAL.

With this issue of the PLEXUS, a great many subscriptions become due. There seems to be an erroneous idea afloat that the PLEXUS can get along without the subscription price. Recently a number of accounts were sent out and seemingly little or no attention has been paid them. We shall have to adopt other means.

The PLEXUS has not been a paying institution and Mr. E. J. Merki, who has been busiuess manager since the first of the present year, has sold to us his interest in the PLEXUS. We are

quite desirious of having our dues, so if you are indebted to us, kindly remit.

* * *

F. Gregory Connell, M. D., Adjunct Professor of Clinical Anatomy and Instructor in Surgery, College of Physicians, and Surgeons Chicago, author of one of the leading articles in this issue of the PLEXUS, was born in Milwaukee, Wis., in 1875. He was educated in high school in Wauwatosa, Wis., a suburb of Milwaukee. After spending one year in Wisconsin State University, he entered Rush Medical College, graduating in 1896. He took post graduate of one year at College of P. & S., Chicago, served as interne in Alexian Bros. Hospital, Chicago, as assistant to Dr. Christian Fenger and is at present with Dr. Henry P. Newman.

Dr. Connell is one of the youngest professors in the medical colleges and has a very bright future. He won the Senn gold medal this year, having present the best essay on surgery.

* * *

Mr, Joseph S. Tomlinson, for several years superintendent of the college, but who on account of poor health resigned the position last year, is with us again as actuary clerk, having full charge of the books, etc. Mr. Tomlinson was always a friend of the students and they will be glad te see him back again.

* * *

The faculty has been very fortunate in securing the services of so valuable a man for superintendent as Mr. W. H. Browne.

Mr. Browne was Superintendent of Schools at Chicago Heights from '94 to '98. For the past three years he has been Superintendent of the Chicago College of Commerce, a business institute on the South Side.

Mr. Browne, because of his years of experience in the administration of school and college affairs, is well and thoroughly qualified for his present position. His ability as superintendent is shown by the marked change in affairs for the better at the college thus far. Mr. Browne was sought for with reference to the position and was strongly recommended by prominent men. He appreciates and enjoys the work of the College of Physicians and Surgeons, believing it to be the leading school of medicine in the West, and our boys will find him a very congenial superintendent.

Alexander Hugh Ferguson, M. D., C. M., who has accepted the Professorship of Surgery in the College of Physicians and Surgeons, is a Canadian by birth and a graduate of the Toronto University and Trinity Medical School. He received post graduate work in New York, Glasgow, London and Berlin, where he took a thorough course in bacteriology under the celebrated Prof. Koch.

Dr. Ferguson began practicing in Buffalo, N. Y., in 1882. He went to Winnepeg, Canada, where he took an active part in founding the Manitoba Medical College which has had a phenomenal success. He held the professorship of surgery in this college and a number of important positions. He was a member of the staff of a number of Canadian institutions and enjoyed the respect and confidence of both the profession and the people.

On June 1, 1894, Dr. Ferguson accepted the chair of surgery in the Chicago Post-Graduate Medical School and Hospital. Since coming to Chicago his services have been in great demand and he has gained a wide reputation.

Hls work of "Hydatids of the Liver" has been the most extensive of any man in America, and was instrumental in first bringing him into notice.

It has been us a teacher of surgery and as an operator that Dr. Ferguson has gained his wide reputation. He has opened the abdomen over a thousand times, has performed many difficult operations and has been extremely successful in his work.

* *
*

Dr. A. J. Ochsner, who has accepted the Professorship of Surgery in the College of Physicians and Surgeons, was born in Barabo, Wis., in 1858. He attended the country school, the high school, taught school for four years, and afterwards entered the University of Wisconsin, graduating from the General Science Course, in 1884. He then entered Rush Medical College, from which he graduated in '86. The following year he served as interne in the Presbyterian Hospital. During his course in Rush Medical College and his interneship in Presbyterian Hospital he was instructor in Normal and Pathological Histology at Rush Medical College. Dr. Ochsner had prepared himself for this work in the laboratory of Prof. A. B. Birge, during his course at the University of Wisconsin. He spent two semesters in the Medical Department of the University of Berlin. After return-

ing to this country he was appointed Chief Assistant of the Surgical Clinic, and Instructor in Surgery at Rush Medical College, which position he occupied for seven years—from 1888 to 1895.

Ten years age he took charge of the Augustana Hospital, then occupying a little wooden building containing eighteen beds.

The surgical department was practically not in existence as only two operations has been performed during the previous year. Since then he has developed the present institution occupying a six-story, fire-proof building with 120 beds, a separate building for contagious diseases, and a nurses' home.

A little over two years ago he also took charge of St. Mary's —the Polish Hospital—at that time containing twenty-five beds. This has been increased to forty-five beds, and soon a large modern hospital is to be erected.

For seven years he has conducted a surgical clinic every Monday, Wednesday and Friday morning from 8 a. m. to 1 p. m. at the Augustana Hospital, and for two years at St. Mary's Hospital every Thursday mornings. These clinics have been very popular and have given Dr. Oschner a far reaching reputation.

* * *

Alumni Department.

Your subscription is due. Please remit.

'97. Dr. Peter Bassoor has resigned his position in the Hospital for the Insane at Mt. Pleasant, Iowa, and has gone to Europe for a year's study. He will visit his parents in Norway while there.

'90. R. F. Teschan is now at the Columbus Medical Laboratory, 103 State St., City. Dr. Teschan expects to go to Europe in the spring for a couple of years.

'00. W. J. Pinkerton, 3935 Cottage Grove Ave., Chicago.

'00. S. M. B. Smith, of Wausau, Wis., was here recently, bringing with him a patient to be operated upon.

'00. Arthur Bremken recently passed the Indiana State Board, making the highest average ever made before the board.

The following are his grades: Anatomy 100, Surgery 100, Medicine 85, Chemistry 90, Obstetrics 95, Gynecology 100 Materia Medica 90, Physiology, 90, making an average of 93.75 Let the good work go on. Dr. Bremken is located at Terre Haute, Ind.

'00. G. G. Dowdall, 2901 Wallace St., Chicago.

LIBRARY NOTES.

GRACE W. BRYANT, LIBRARIAN.

Dr. Quine is determined to place our library in the very first class, as may be seen from this number's list of new books, and list of current periodicals subscribed to for the coming year, all of which he has given. We must call especial attention to the complete sets of the Transactions of the London Pathological Society, in 52 volumes, the Johns Hopkins Hospital Reports in 7 volumes, and 9 volumes of tubarsch and Ostertag's, Ergebnisse der Allgemeinen pathologie and pathologogischen anatomie. These are all very valuable and expensive works, of especial use to our pathological department. The journals subscribed to are all leading ones. The Bibliographia Medica is trying to carry on the work of the Index Medicus, which is published no longer

It is a monthly index to the medical literature of the world; its arrangement is practically like that of the Index Medicus. The careful reading of the list of new books and periodicals will prove of interest to all interested in the growth of the Library.

We appreciate the gift of Dr. A. H. Ferguson, one of our new professors of surgery, who has given to the Library a beautiful copy of the "History of Chicago, its men and Institutions," published by the *Inter-Ocean*. It contains biographical sketches of leading citizens and has hundreds of illustrations.

By means of our exchanges and donations, one hundred and twenty volumes of journals have been completed since the first of the year; these have been bound and are now on the shelves ready for use.

The following articles by members of the Faculty have been noted:

Dr. W. S. Christopher. Measurements of Chicago school children, Jour. A. M. A., Sept. 9, 1900, p. 618.

Dr. W. T. Eckley. An Anatomical Lecture, Chicago Clinic, Aug. 1900, p. 400.

Dr. Bayard Holmes. The Master of Medicine as the Teacher of Medicine. Phil. Med. Jour., Sept. 1900, p. 373.

Dr. G. F. Lydston. Service Notes, Doctors' Magazine, Aug. 1900, p. 211.

Dr. H. P. Newman. Cervical pulp; Gonorrheal infection; Carcinoma Uteri, Med. Standard, Sept. 1900, p. 514. Also, Improved Technique in major and minor surgery of the female generative organs, Jour. A. M. A. Aug. 1900, p. 268.

Dr. J. L. Porter. Congenital Dislocation of the Shoulder, N. Y. Med. Jour. Aug. 1900, p. 265.

Dr. F. R. Sherwood. Brain Tumor, case report, Chicago Clinic, Aug. 1900, p. 390.

Dr. D. A. K. Steele. Prophylactic treatment of tetanus, Doctors' Magazine, Aug. 1900, p. 103.

DR. QUINE'S GIFT—NEW BOOKS.

Barlow, W. S. L. General pathology, 1898.

Birch-Hirschfeld, F. V. Pathologische anatomie, 4 v. 1894-97.

Cohnheim, Julius. General pathology, 3 v, 1889-90.

Dürck, H. Special pathologic histology, L. Hektoen, ed, 1900.

Mallory, F. B. & Wright, J. H. Pathological technique, 1898.

Senn, Nicholas. Pathology and surgical treatment of tumors, ed. 2, 1900.

Sutton, J. B. Tumors innocent and malignant, 1894.

Thoma, Richard. General pathology, 1896.

Index Medicus, 3 v. 7-10, 1885-88.

London pathological soc. transactions, 52 v. 1848-98.

New Sydenham Soc. atlas of illustrations of pathology, pt. 1-11, 1877-98.

Progressive medicine, 4 v. 1899.

CURRENT PERIODICALS.

Amer. Jour. of Medical Sciences.
Annales de l'institut Pasteur.
Archives de médecine experimentale.
Archiv. für mikrokopische anatomie.
Bibliographia Medica.
Centralblatt für allgemeine pathologie.
Johns Hopkins Hospital Bulletin.
Johns Hopkins Hospital reports v. 1-8.
Journal of anatomy and physiology.
" " physiologie et de pathologie générale.
" " applied microscopy.
" " pathology and bacteriology.
" " the Royal Microscopical Society.
Popular Science Monthly.
Progressive medicine.
Virchow's, archiv. für pathologische anatomie und physiologie.

BY EXCHANGE AND DONATIONS.

Amer. Medical Recorder, v. 3, 14. 1822-28.
Bowditch, H. I. Public Hygiene in America, 1877.
Burton, Robert. Anatomy of melancholy, ed. 6, 1854.
Cincinnati Journal of Medicine, v. 1, 1866.
Colorado State Med. Society. Transactions, v. 25, 1895.
Illinois State Med. Society. Transactions, v. 32, 1882.
Index Medicus, v. 1, 2, 5.
Indiana, Health, B'd of—Annual report, v. 12, 1834.
Kansas, Health, B'd of—Annual report. v. 3, 1888.
Missouri Med. Association—Transactions, v. 36, 1893.

Ohio State Med. Society—Transactions, v. 34, 44, 50, 1879, 89, '95.

Ridenbaugh, M. S. Biography of Ephraim McDowell, 1890.

Seifert, O. & Miller, F. Clinical diagnosis, 1895.

Senn, Nicholas. Tuberculosis of bones and joints, 1898.

Solomonsen, C. J. Bacteriological technology, 1890.

Texas State Med. Society—Transactions v. 17, 18, 1885-86.

U. S. Health, B'd of—Annuul report, 1882.

Wisconsin State Med. Society—Transactions, v. 29, 1895.

Chicago Pathological Society — Transactions, v. 3, 1900 Society donor.

N. Y. State Univ. Annual Report, 1896. Univ. donor.

New Jersey, Health, B'd of, Annual Report, 1900. New Jersey B'd of Health, donor.

NEWS ITEMS.

Your subscription is due. Please remit.

The Chicago Clinical School begins its fall term on Oct. 1.

Lewis J. Hammers, '02, was married to Miss Minnie O. Berger at Dolton, Ill., Sept. 13. They will be at home at 164 Leavitt St. Chicago, after Oct. 15th.

Dr. C. N. Ballard left recently for a month's trip through Idaho and Washington.

Miss Grace W. Bryant, our popular librarian, recently returned from a three weeks' visit to the home scenes of Massachusetts. She reports a very pleasant trip.

Your subscription is due, please pay up.

Charles O Whiltfong, '01, house surgeon of the P. & S., Mortimer Frank, '01, M. R. Ryon, '01 and Geo. R. Diven, '01 were among the medical aids which the *Chicago American* sent to Galveston.

Miss Healan reports a very pleasant time on her European trip. She had the pleasure (?) of experiencing seasickness to its fullest extent and has not fully recovered her equilibrium yet.

The PLEXUS received a card from W. E. Kittler, '02, from Leipzig, Germany.

Dr. Wm. Harsha recently returned from an eleven weeks' trip through Europe, and had a very pleasant trip. While in Europe he had the pleasure of visiting many hospitals and clinics while enjoying the sights and scenes.

Messrs. Fisk & Wakefield, on the corner of Harrison and Hermitage ave., have placed in a more extensive line of goods that will be of interest to medical and dental students. Call and look over their goods.

Albert Soiland, who was in P. & S. College '95-'96, called at the PLEXUS office recently. He completed his work at Medica Department of University of Southern California at Los Angeles and is now located at Long Leaf, La.

The dispensary during the month of August treated 840 patients and the number will be over 1,000 for September. There is at present a strong corps of dispensary doctors under the superintendency of Dr. Eisendrath.

The Senior and Junior students will have the hours 11–12 and 2–3 free for dispensary work. The classes will consist of 12 member, seniors or juniors, and they will be in each department three weeks. Supt. Brown will have charge of the detail of the dispensary work.

BOOK REVIEWS.

CRIME AND CRIMINALS. By J. SANDERSON CHRISTISON, M. D. Formerly of the New York City Asylums for the Insane, Blackwell's Island and Word's Island, etc. Author of "Normal Mind," "The Evidence of Insanity," "Drink and Disease," etc. Second Edition with an Appendix containing analysis of the "Leutgert" and other cases. Illustrated with photographs and etchings. Cloth $1.25; paper 50c. Chicago. The Meng Publishing Co.

Dr. Cristison who is recognized authority on insanity and degeneracy, has handled his subject skilfully and his work will undoubtedly become popular.

PRACTICAL URANALYSIS AND URINARY DIAGNOSIS. A manual for the use of physicians, surgeons and students. By CHAS. W. PURDY, LL. D., M. D., Queen's University, Fellow of the Royal College of Physicians and Surgeons. Kingston, Canada; Professor of Clinical Medicine at the Chicago Post-Graduate Medical School. Author of "Bright's Disease and Allied Affections of the Kindeys;" also of "Diabetes. Its Causes, Symptoms and Treatment." Fifth revised and enlarged edition. With numerous illustrations, including photo-engravings, colored plates and tables for estimating total solids from specific gravity, chlorides, phosphates, sulphates, albumin, reaction of proteids, sugar, etc., etc. in urine. 6x9 inches. Pages xvi-406. Extra cloth, $3.00, net. F. A. Davis Company, Publishers, 1914 Cherry Street, Philadelphia.

This revised edition of this work contains some new chapters, some of which are the results of long and careful investigation by the author. The chapter on centrifugal nalysis has been per-

fected and now by one swing in a four arm centrifuge, a quantitative estimation of chloride, sulphides, phosphates and albumen can be made. Accurate tables have been worked out for these various estimations and the whole process need not consume more than ten minutes time. The chapter on the microscope tells the student and the general practitioner just what they want to know about that instrument. The whole work has been carefully revised and contains what one wants to know about the urine, in a convenient and neatly bound volume.

BRAIN IN RELATION TO MIND. By J. Sanderson Christison, M. D. Author of "Crimes and Criminals," etc. Illustrated. Cloth $1.25. 140 pages. Published by the Meng Publishing Co., Chicago.

A book for physicians and laymen, each of which will find this book very interesting. Based upon recent physiological and pathological data. After a general discussion the author speaks of the brain cells and their relation, theories of motor and sensory centers, of mind localization; brain form and size in relation to mind and the normal mind.

The author has treated his subject clearly, concisely and logically.

MEDICINE AS BUSINESS PROPOSITION. By G. Frrnk Lydston, M. D. Professor of the Surgery of the Genito-Urinary Organs and Syphilogy in the Medical Department of the State University of Illinois. Price 25c. 33 page pamphlet, paper cover. The Riverton Press, 132 Market St., Chicago.

Dr. Lydston emphasizes the fact that most practitioners are *born short* when it comes to business methods, and cites that he is a poor collector, does not value his services sufficiently, false pretense of prosperity, poor judge of human nature. He also speaks of the evils of the college, hospital and dispensary, medical "Tin Gods,' the inconsistencies and absurdities of ethics and tells a great many plain but true facts concerning these.

The "ready made doctor" and "properietary medicine fakes" comes in for their share in Dr. Lydston's article. Concerning proper drug manufacturers, he says: "There is another side to the picture. Drug manufactures, even some engaged in the manufacture of quasi-proprietory medicines, have done much for pharmaceutic elegance and convenience." The druggist, corporation doctor, each are given careful attention. The article closes with a discussion of fees in general, a discussion of "steerers" "commission men," and the blunder of the Physicians' Club of Chicago in recognizing the osteopaths and Christian Scientists by inviting them to dine with them and discuss their beliefs.

The prod is a good thing and we are pleased to find men that are not afraid to use it. Dr. Lydston's article should be read by every practitioner.

THE MARION-SIMS HOSPITAL.

438 LaSalle Avenue,

CHICAGO.

A high-class private Hospital for the reception of Gynecological cases and for abdominal Surgery.

Centrally located in one of the best residence districts of the city, this institution offers accommdations which are superior in every respect and combine the comforts and luxuries of the home with the strict appointments of modern sanitary science.

The apartments are light and well ventilated, heated by an improved hot water system. Hardwood floors throughout; furniseings elegant and appropriate. Trained nurses of superior skill are in charge of the patients and the diet is the best.

The operating rooms are specially fitted with all modern appliances for aseptic surgery.

A competent physician is in attendance at all hours.

CHANNING W. BARRETT, M. D., House Physician.

F. GREGORY CONNELL, M. D., House Physician an Pathologist.

For further information address

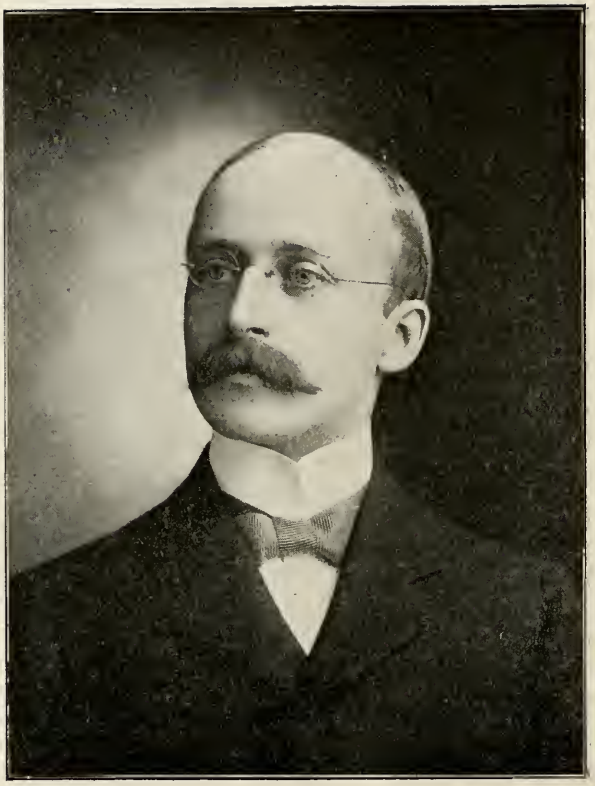
HENRY P. NEWMAN. A. M, M. D,

Surgeon in Charge.

103 STATE STREET, CHICAGO.

Long Distance Telephone 737 North.

Five-grain
Antikamnia Tablets—
The only scientific analgesic,
The only safe antipyretic!
No habit—no cardiac depression
Made solely by
The Antikamnia Chemical
Company
St. Louis, U. S. A.



M. L. GOODKIND, M. D.
Professor of General Diagnosis, College of Physicians and Surgeons, Chicago.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. OCTOBER 20th, 1900. NO. 6.

HENOCH'S FORM OF PURPURA HEMORRHAGICA; MITRAL STENOSIS AND INSUFFICIENCY; HYPERTROPHIC CIRRHOSIS OF THE LIVER; CARCINOMA OF THE ESOPHAGUS WITH MEDIASTINAL GLANDULAR INVOLVEMENT.

By Maurice L. Goodkind, M. D.

Professor of General Diagnosis, College of Physicians and Surgeons (University of Illinois); Attending Physician to the Michael Reese Hospital, Chicago, Ill.

A consideration of every form of hematemesis would be beyond the scope of this paper, so that we shall have to limit our discussion to certain phases of this condition in which the fundamental cause is extragastric. All the cases which illustrate the various pathologic states in which vomiting of blood is a prominent system, were demonstrated before the class last year.

HENOCH'S FORM OF PURPURA HEMORRHAGICA.

Charles W., 3½ years of age, appeared before the class in November, 1899. His illness began six months ago with very severe paroxysms of colic, accompanied by violent attacks of vomiting, diarrhea, and rectal tenesmus. Both vomitus and evacuations contained large quantities of blood (hematæmesis and melcena). There seemed to be general musular soreness, and some ecchymotic spots over both legs; fever and chilly sensations accompanied the attack, which lastsd for several days, followed by ntense prostration and weakness, persisting for several weeks.

His mother, who brought him to us, described three distinct attacks of a similar character,

His hereditary history was perfect. No family tendency to bleeding, either following injury or spontaneously (hemophilia). The child had been born at term; labor normal in all respects, and during the first nine months of his life received nourishment from his mother, after which he received a generous diet, properly adjusted to his age (rickets and scorbutus). Up to the time of the illness from which he is now suffering, he escaped the usual infantile disorders. Walking, talking, dentition, and the closure of the fontanelles occurred at the appropriate ages.

On examination the child manifested considerable restlessness. Pressure over the muscles elicited evidences of pain, particularly of the leg muscles. The skin was pallid, with purpuric spots over both legs and arms, varying in size from a pin-head to large blotches. The osseous, glandular, and cutaneous systems, other than the ecchymoses, appeared normal (rickets, tuberculosis, syphilis). The mucous membranes of the nose, eyes, mouth and gums were somewhat paler than normal, there were no hemorrhagic spots. There was no stomatitis (scorbutus); no urticaria, erythema nodosum, or arthritic symptoms. The tongue was dry and coated; temperature 103°; pulse 103. The heart and lungs were negative. The abdomen was somewhat distended and very sensitive to pressure. The liver area was not enlarged. Splenic dullness extended somewhat beyond the free border of the ribs.

The mother was advised to remove the child to her home, keep it in bed in a warm, well ventilated, well lighted room, giving it tepid sponge baths, with iced milk for nourishment, and a powders of tannigen, salol, and fractional doses of calomel; also high rectal flushings of iced water. After an interval of two weeks the mother returned with the child, and it presented a much better appearance, hematemesis and the melena having entirely ceased. Temperature and pulse were again normal. Examination of the blood made at this time showed a diminution in the number of red blood corpuscles, and a proportionate reduction of hemoglobin. There was no distortion either in the size or shape of the red blood cells (poikilocytosis, micro,megalo —normoblasts); also no increase in the number of leucocytes. Urine was normal. The stools contained no intestinal parasites.

Pernicious Anemia, Splenic Anemia, Rickets, Scorbutus, Hemophilia, Malaria, Intestinal Parasites, and the ordinary types of Purpura Hemorahagica were excluded along the lines indicated. The further treatment of the case was hygenic and dietetic and the administration of liquor kali arsenitis, and syrup of iodide of iron; with syrup of wheat phosphates. Nine months have elapsed since the last attack, and the child has gained in strength and has suffered no recurrence.

The citation of the next three cases, in which the diagnosis was confirmed by autopsy findings at the Michael Reese Hospital, still further demonstrates how widely diverse pathologic states may present hematemesis as a pronounced symptom.

MITRAL STENOSIS AND INSUFFICIENCY.

Michael S., 15 years of age, had been under my immediate supervision prior to his appearance at the clinic October, 1899, complaining of symptoms similar to those for which he now seeks relief. He has giddy spells, palpitation, breathlessness, with occasional coughing and vomiting of blood (hemoptysis and hematemesis), and some swelling of feet. Both his parents were in good health, as were his brothers and sisters. He suffered from scarlet fever six years before, but without joint complications. There was no history of either chorea or rheumatism, either in its arthritic or aberrant forms. He says that exertion of any sort augments his discomfort. Other than the several attacks of hematemesis, he had no perversion of the functions of the digestive tract.

On examination, the lad was found to be somewhat undersized for his years. The skin, particularly of the nose and face, was dusky and slightly icteric. The extremities were swollen and pitted on pressure. The fingers were not clubbed, nor was there any tropic change of the nails (congenital heart trouble). Concerning the eyes, there was a subiceteric hue of the sclera, and puffiness of the lower lids. The tongue was somewhat furred; shape of the thorax was negative, excepting very slight in the precordial region. The veins of the neck pulsated (presystolic or negative venous pulse), and were turgescent. The radial pulses were equal, rather empty, and of diminished tension, somewhat frequent, and arrhythmical. The elasticity is about normal. There were numerous moist and mucous rales throughout the chest. The respirations were

shallow and rapid. On inspection of the precordia some prominence was noticed. The apex beat was about one and one-half inches outside of the mamillary line. Epigastric pulsation was pronounced. On palpation the impulse was felt to be diffused and of lessened intensity; it was preceded by a distinct thrill (fremissment catairré). Vibrations induced by the active closure of the second pulmonic could also be felt. Cardiac dullness began at the second intercostal space, extended to the right as far as the right parasternal line, and one and one-half inches beyond the left mamillary line. Auscultation at the apex revealed a harsh murmur, beginning with the second sound, and terminating in the first sound, which was present and markedly accentuated. (In this connection I desire to emphasize the importance of recognizing the accentuated first sound when present, with a systolic murmur, as it should direct suspicion to a co-existing obstruction, as in an uncomplicated incompetence of the mitral valve the first sound is either absent or diminished). The systolic murmur was transmitted toward the left as far as the angle of the scapula. Over the pulmonary area the second sound was strongly accentuated. (On several occasions, during the boy's sojourn at the hospiial, when compensation was markedly disturbed, a systolic murmur was heard over the tricuspid area. The pulsations of the juglars became systolic in time. Liver pulsations could also be determined. This was unquestionably a transitory condition of relative tricuspid insufficiency). The liver extended two inches below the costal margin in the mamillary line. No other abdominal findings were obtained (ascites, spleen, kidney, tympanites). The lad was ordered removed to the Michael Reese Hospital, where rest and a rigid diet were enforced. He was given calomel at night, with concentrated solution of sulphate of magnesia in the mording; tincture of nux vomica; tincture of digitals, and tincture of strophanthus were given alone, and in combination. On several occasions his cyanosis became so marked and an impending edema of the lungs so threatening, that venesection was practiced. At such times carbonate of ammonia also seemed to be of service. For the palpitation, dyspnea and restlessness, ice over the heart and heat to the extremities, spiritus etheris compositus, leeches applied to the chest, heroin, and morphine in appropriate doses, were given

greatly to the child's comfort. Despite these and other measures, he died on the ninth day of November. As before stated, the autopsy confirmed the clinical findings. The orifice of the mitral valve was of buttonhole shape, and too small to admit even the point of an ordinary-sized lead pencil.

HYPERTROPHIC CIRRHOSIS OF THE LIVER.

Joseph B., 42 years of age, of Hungarian nativity, barber by trade, married, two children living and well. No history of wife having had miscarriages. His both parents are living and well, at the ages of 79 and 75. He was shown to the class November, 1899. He denied a venereal hIstory, as well as the immoderate use of tobacco, tea and coffee, but admitted excessive indulgence in beer and spirits during the past ten years. His present illness began a year ago with dyspeptic symptoms (fullness in the abdomen; morning vomit of sour fluid, occasional vomiting of blood, which seemed to be provoked spontaneously without relation to the ingestion of food, and unaccompanied by pain or nausea)—(Ulcus, carcinoma, and erosions).

A few months after the onset of the symptoms he began to have icterus, which was gradual in its development, beginning in the face and conjunctivæ, and finally involving the entire body. At the same time he began to experience a feeling more akin to discomfort than pain in the right hypochondrium, which he described as a dragging sensation. His stools were regular and not clay-colored. There was no history of gall blabder colic. He claims to have lost twenty pounds in the last year.

Physical Examination: His general appearance is that of poorly nourishad, emaciated, and profoundly icteric man. The icterus involved the sclera and mucous membranes. The musculature was very flabby; subcutaneous fat and tissue atrophic; skin elastic and saffron color. The radials and temporals were tortuous and rigid (arterio-sclerosis), with retarded rate—fifty to the minute. The tongue was coated with yellowish fur, and was tremulous, as were the hands. The lungs were negative. There was an accentuation of the second aortic, and a slight displacement of the apex beat to the left (arterio-sclerosis); otherwise the heart sounds were cleat- The abdomen was large, with a marked prominence in the right hypochondrium. No evidences of venous stagnation (caput medusa, hemorrhages, varices of the skin, thorax or abdominal

wall, ascites). The area of liver dullness began at the sixth rib and extended a hand's breadth below the costal margin in the mamillary and parasternal lines, and was of fairly hard consistency and smooth surface. No pain on pressure; no thrill, or acoustic phenomena could be elicited. The spleen was palpable on deep respiration. The urine showed bile pigment and urobilin. The blood examination showed neither malarial parasites nor leucocytosis. The temperature was normal.

DIFFERENTIAL DIAGNOSIS.

1. Hypertrophic stage of atrophic cirrhosis—we have less jaundice, acholic stools, more signs of venous stasis, liver less hypertrophied, and more irregular in outline.

2. Syphilis. The history, also glandular, osseous, cutaneous, ocular, mucous membrane changes; liver is more modular.

3. Amyloid. No jaundice. There is a history of tuberculosis, cachexia, bright's disease, chronic diarrhea, or suppuration.

4. Cancer. There is greater cachexia, no splenic enlargement, glandular involvement, more irregular surface of the liver, greater amount of pain.

5. Echinococcus. Thrill, fluctuates, occupies one lobe of the liver (history of domestic pet dog).

6. Malarial and leukemic enlargements were excluded through the blood examination and the history.

The jaundice becoming more intense, he was ordered removed to the Michael Reese Hospital, where he began to develop a febrile movement (103° F); the pulse becomes more rapid and weak; heart sounds indistinct; albumin, granular and hyaline casts appeared in the urine. Urea became greatly diminished in amount; there were no leucin or tyrosin crystals in the urine. His uremic condition enhanced the gravity of his cholemia. He now becomes delirious and had convulsive seizures, and expired on the 29th day of January.

The autopsy, which was performed by Dr. Eisendrath confirmed the clinical findings.

CARCINOMA OF THE ESOPHAGUS, WITH MEDIASTINAL GLANDULAR INVOLVEMENT.

Alexander F., 44 years of age, cabinet maker, German, married, wife and three children living and well, with negative family history. He strenuously denied venereal infection; also

over-indulgence in tobacco, tea, coffee and alcohol. He had erysipelas five years ago, complicated by pneumonia, but after that he enjoyed excellent health up to July of this year, when his malady began insidiously, without apparent cause (trauma, foreign body, swallowing of acids or alkalies), with difficulty in deglutition, which was especially noticeable on partaking of solid food. After a few weeks he began to vomit immediately after the ingestion of food, the ejected matter consisting of food stuffs, which was occasionally tinged with blood. During October he acquired dyspnea, a harsh and stridulous cough, with considerable huskiness of voice, and finally became unable to articulate above a whisper. He now began to experience pain of a smothering character in the middle of the chest, which persisted irrespective of posture. Occasional sharp pangs of pain, beginning over the sternum and radiating down the arm, also added greatly to his discomfort. Since the inception of his illness he has lost 30 pounds in weight.

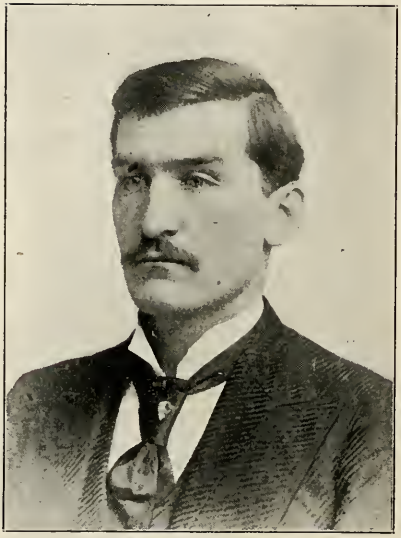
Let us digress for a moment from the beaten paths, and determine whether, from the points thus far enunciated, we are in a position to arrive at any decision regarding the nature of this patient's malady. Emphatically, no, for two potent reasons. In the first place, the array of symptoms that this man presents (dysphagia, emesis, anarthria, and painful sensations) I have seen form the symptoms complex in certain cases of polioencphalitis inferior, in locomotor ataxia, in spasmodic stricture of the esophagus, in aneurysm, and in stenosis of the esophagus from syphilis, tuberculosis, ulceration, and neoplasm; and, secondly, and principally, I wish to impress upon you the necessity of making thorough examinations in all cases, for often the history that you obtain from a patient is very misleading and may lead you into serious error.

Physical Examination. We find the general nutrition greatly impaired; muscles flabby, and subcutaneous tissues wasted. Skin is pallid and wrinkled; mucous membranes pale. The glandular system, the inguinal, cubital, axillary glands are not palpable. But in the left supraclavicular fossa we feel two glands the size of small marbles, and greatly indurated. The right pulse is smaller than the left, and somewhat retarded in time, in both the radials and carotids (pulsus differens). The right pupil is more dilated than the left, but both respond to

light and accomodation. The patient is unable to answer questions in a voice above a whisper. There is no bulging, edema, redness, or dilated veins over the thorax. The heart sounds are distinct. He has no murmur present. There is no accentuation of the second aortic sound; no diastolic heart shock; no thrill or expansile pulsation; no displacement of the apex beat; no tracheal tugging (as we find in aneurysm). On examining the respiratory system, we find both inspiration and expiration accompanied by adventitious sounds—sibilant, and sonorous rales, and small-sized moist mucous rales. On percussion a slight area of dullness was detected to the left of the sternum in the third intercostal space, extending over an area as large as a silver dollar.

Abdomen. The liver, spleen, and urine were negative. The sputa contains no tubercle bacilli. The blood shows signs of anemia, with a slight increase in the number of leucocytes of the polynuclear neutrophilic type (red, 3,800,000; hemoglobin, 65 per cent.; white, 21,000).

Laryngoscopic examination showed the larynx in the cadaveric position (double inferior recurrent paralysis). Examination of the nervous apparatus (reflexes, motility, sensibility, cranial nerves) showed no abnormality. On ausculating with the stethoscope, placed to the left of the vertebral column, the normal deglutition sounds were heard as far as the third dorsal, but could not be heard below this. Aneurysm having been excluded, it was deemed safe to cautiously introduce an esophageal bougie; at 24 centimeters from the incisor tooth an obstruction was encountered, which did not convey the grizzly feel which is usually obtained with cicatrical contraction, and through which the bougie could not be passed. The man was then exposed to the X-ray. After swallowing 30 grains of subnitrate of bismuth, and at the point where the dullness had been made out through percussion, a corresponding opacity was observed. From this array of symptoms a diagnosis of carcinoma of the esophagus, with secondary involvement of the mediastinal glands was established. He was received into the Michael Reese Hospital February 17th. His weakness progressively increased, and the act of deglutition was so painful that it necessitated the use of a solution of cocaine each time before he could swallow anything. He was given KI in increasing doses, and for a short time the severity of the symptoms seemed to abate. (This is not an uncommon thing in carcinoma of the esophagus as the exulceration often lessens the degree of the stenosis). The patient refusing surgical intervention, it finally became necessary to resort to rectal alimentation. On March 13th signs of pneumonia (aspiration) developed, and he died March 17th. The post-mortem examination, which was made by Dr. E. Friend, was corroborative of the clinical findings.



S. STEVENS, M. D.

"PUTRID GASTRO-ENTERITIS."

S. Stevens, M. D.

In making a classification of the gastro-intestinal diseases of children, it is quite difficult, and as a result we have as many classifications as there are writers. Some attempting to classify and others grouping them under one general term; as summer complaint or cholera infantum, thus making it difficult to study them on account of confliction of terms. It is to be hoped that a few years, hence when the bacteriological investigations are more perfect, we will have a more perfect classification from an etiological standpoint.

For the purpose of describing the form of enteritis, and at the same time giving it a name by which it can be recognized, it may be termed "Putrid Gastro-Enteritis," and it will be described by different writers under the following terms:

Alkaline Diarrhœa.	Osler.
Green Diarrhœa.	Thompson.
Super Digestion of Proteids.	Christopher.
Acute Dyspeptic Diarrhœa.	Pepper.
Milk Infection.	Vaughn.
Cholera Infantum.	Hare and DaCosta.
Acute Catarrhal Enteritis.	Wood and Fitz.
Acute Gastro-Enteric Infection.	Holt.
Acute Gastro-Intestinal Catarrah.	Anders.

In looking up the literature it is very difficult, and we find in Alkaline Diarrhœa there are two distinct varieties, one having *green* stools and *not* putrial, while the other has *green* and *putrid* stools, the putrid variety is more common and dangerous to life. Green diarrhœa same conditions are true as of the previous variety.

Super digestion of proteids does not give any description anatomically, etiologically or pathologically.

Acute dyspeptic diarrhœa is very indefinite and does not differentiate between the acid and the alkaline stools.

Milk infection would lead one to think it was due to milk diet, but on the other hand child can have it when fed on albumen from any source.

Cholera infantum is a disease where *diarrhœa, cramping* and *vomiting* take place at the same time and corresponds to cholera morbus of the adult.

Acute catarrhal enteritis the authors do not recognize the reaction which is very essential in any form of diarrhœa so as to be able to select the proper dietetic treatment which will be spoken of later.

Acute gastro-interic infection (Holt) and acute gastro intestinal catarrah (Anders) both authors divide into the classes, simple and true cholera infantum, and under simple they include both acid and alkaline stools and both give albumen in treatment.

Putrid gastro-enteritis is an acute infectious disease of microbe origin, characterized by *green colored* and *putrid* stools *alkaline* in reaction *with* or *without* diarrhœa occurring at all seasons of the year, and in late summer it may become epidemic.

Etiology: The specific germ has not been isolated, but it is safe to say that it is of a microbic origin, and acts upon proteids.

Christopher applies the term super digestion of proteids and defines it as a pathological fermentation of the proteids of normal digestion and is always induced by micro-organisms, this action is *infrequent* in stomach but *frequent* in intestines. Vaughn states that the changes are not due to a specific micro-organism, but to many. Booker of Baltimore and Jefferies of Boston have both found micro-organism inside the bowel. Booker found from thirty infants, *forty* different *varieties* of *bacteria*, three of the varieties separated by Booker were investigated by Vaughn, and in each case he separated a proteid poison and there was a chemical difference in the poisons, each of which when injected into kittens and dogs produced vomiting and diarrhœa, and when given in sufficient quantities produced collapse and death. The number of bacteria and poisons found will explain the variations of symptoms as there are different types.

Predisposing causes: Age, most frequent under 2 years, and to second six months of life, due to more irregular feeding. Dr Crandall has tabulated three thousand cases of diarrhœa treated in private and dispensary practice and finds the following:

Under 6 months of age 14 per cent.

6 to 12 months of age 29 per cent.
12 to 18 months of age 24 per cent.
18 to 24 months of age 17 per cent.
Over 2 years of age 16 per cent.

Season: Summer months, may become epidemic in late summer, but may occur in any month of the year. Seibert's and Meinert's reports show the mortality rate but slightly more in May than in January; they also show that as the mean atmospheric temperature approaches 60° F. diarrhœal diseases in infants increases, and when the minimum daily temperature does not fall 60° F. these disorders become epidemic.

Weaning is a cause indirectly by allowing more chances for the introduction of micro-organisms.

Direct infection: Children coming in contact with ones that are sick and becoming infected. Dr. Christopher reports an epidemic in a childrens' asylum where those coming in contact with the sick child all contracted it in twenty-four to thirty-six hours. Holt reports a case of this kind in a childrens' hospital in New York City but thinks the epidemic was due to drinking of contaminated milk.

Surroundings: Among the poor and densely populated districts, but may effect those in refinement.

Constitutional conditions: Premature birth, rickets, scurvy, and other debiliating diseases and influences.

Food and feeding: Hope reports out of 1943 fatal cases of diarrhœa only 3 per cent. were exclusively breast fed. Meinert reports 602 deaths out of which 24 were exclusively breast fed. It can readily be seen that artificially fed babies are more susceptible. Over-feeding is a common error, and is usually the case in artificially fed babies. Contaminated mild which may be due to disease of the cow, or adulteration or polution of the milk, either at dairy or at home. Over-feeding of proteids and feeding the baby every time it cries are common errors.

Morbid anatomy: There is redness and swelling of the mucous membrane of intestines and in particular the upper portion of the large intestine, desquamation of the epitheleum and enlargement of the solitary glands. Holt has found ulceration of solitary glands and involvement of the other structures of the bowel after the third week.

Clinical types: There are two distinct clinical types, (a)

where patient has high temerature, very restless and excitable, (b) where patient is in stupid condition and simulates opium poisoning, usually the temperature is lower and constipation is more common, convulsions may occur with either variety; I am unable to state in which variety they are more liable to occur.

Symptomology: Elevation of the temperature is usually present ranging from 100° F. to 103° F. and may go higher, again in some cases the temperature is subnormal, restless and rapid pulse, 120 to 140, extreme weakness and emaciation takes place very rapidly, bowel movements may vary from four to twenty-four in twenty-four hours, they are *green* and *putrid*, and the odor is similar to rotten egg, the passages may contain mucus, blood, and undigested particles of food, and *alkaline* in reaction, in some cases the bowels are constipated and the child lies quiet, temperature subnormal and sleeps a great deal, the cause of the variations of the symptoms are explained in etiology, there may be nausea, and vomiting, and great thirst, this is very apt to take place when the infection is in the stomach and small intestines.

Course and duration: Usually the acute symptoms subside within a week, may terminate in chronic cholitis which may last several weeks.

Complications and sequela: Convulsions and pneumonia are most common, also prolapse of rectum due to extreme weakness and relaxation.

Diagnosis is made by an examlnation of the bowel movements, *green color*, *putrid odor*, and *alkaline* in *reaction*. We have a form of diarrhœa where the stools are *green*, due to the action of chromogenic micro-organisms, but the *putridity* is absent, the *putridity* being due to bacteria acting upon albuminoids. Also typhoid fever has to be differentiated. It was thought at one time that children under two years of age did not have typhoid fever, but more recent investigators have found it to be more common than formerly; the late Dr. Charles Warrington Earle was quite emphatic on this point, he says that Stewart in 1841, in the article on "Infantile Remittant Fever" was describing typhoid fever; Dr. Ogle in "London Lancet, Jan. 2, 1892," reports a case of four months of age, another case reported in Keating cyclopedia of an infant six months of age. Vogel cites seven cases under one year of age. One of the diagnostic points

in typhoid fever in children was noted by Christopher, i. e., the tongue, "he states that the edges and point of the tongue is reddened, the coat is in heart shape and that it is of diagnostic value," which was confirmed by Earle.

Prognosis depends upon the care and feeding of the child, the death rate is quite high in filthy and over-crowded districts, also where infection is confined to the small intestine.

Treatment: The treatment consists (a) diatetic, (b) mechanical, (c) medicinal. We have found in etiology that the cause is due to an infection in the gastro-intestinal track acting upon the proteids, theoretically and in hospital practice the food would be with-held from twenty-four to thirty-six hours, but in private practice this is not possibie unless child is under the care of a trained nurse, for the mothers will insist on feeding them; we can accomplish nearly the same thing by feeding pure starch in the form of Arrow Root, if this is not at hand, the old fashioned flour ball will act nicely, barley water can also be given. A child can live for an indefinite time on starch, thereby you can nourish the child and at the same time you are able to with-hold the albuminoids which the germs thrive upon. If young infants *take from* the *breast*, *stop all milk* and feed *Arrow Root.* Do not do as some of our medical writers tell us, to group all the diarrhœal diseases under one general term, and give them all albumen, this is *wrong* and can be easily demonstrated by the bedside of your little patient if you care to do it; this is one *error* that is made more than all others in diet, and the one that has caused the child's sickness to continue, and I am sure that it has caused some of our little ones to depart to the unknown.

Mechanical: By mechanical treatment we understand the use of the fountain or bulb syringe with a small rectal or large soft rubber catheter attached using warm water and glycerine or starch water injection in the lower bowel—do not use soap suds as this is drying to the mucous membrane and retards normal secretion from same, can also use normal salt solution, and it ought to be used in some cases, the rectal enemeta should be given one of the first things done, and repeat as often as required to keep the lower bowel empty and clean. There is some danger in producing a prolapse of the rectum by too often and prolonged use of the rectal irrigation by producing a relaxation

of muscular coats of the rectum, but this can be avoided in extreme cases, usually three or four irrigations daily will suffice, if there be rectal irrigation, use starch water. The results to be accomplished by rectal irrigation are (a) removes decomposed matter and gas, (b) lowers temperature, (c) quiets patient, (d) will help relieve irritable stomach, (e) will aid in relieving convulsions by removing the irritating material (f) will aid in preventing collapse.

Medical: The medical treatment is Antiseptic, Supportive, and Symptomatic. Antiseptic treatment consists in the administration of the so-called intestinal antiseptics, as bichloride and mild chloride of mercury, bismuth sub. nit., bismuth salicylate, salol, sulphocarbolates, beta-naphthol copper arsenic, etc. The initial dose of castor oil is good treatment; as a rule the administration of calomel ($\frac{1}{10}$) grain every fifteen minutes to one hour according to age until action from mild chloride, follow with bismuth sub. nit. (Mercks) two to fifteen grains every two to four hours until acute symptoms subside, followed with copper arsenic ($\frac{1}{100}$) grains every four hours, giving a ($\frac{1}{2}$) grain of calomel in ($\frac{1}{10}$) grain doses every day or two. Salol is a good drug and I consider it one of the best intestinal antiseptics where a laxative is not required, it can be given combined with bismuth in ($\frac{1}{2}$) to (2) grain doses.

Supportive: Cognac brandy should be given the preference of the alcoholics and is necessary when the patient is weak, given in hot sling. Quinine bi-sulphate two to four grains to a dram of lanoline used by inunction every four hours for tonic effect. A good preparation of pepsin with hydrochloric acid should be administered as soon as albumen is given thirty minutes after food is taken.

Symptomatic fever can be controlled by sponge bath, but if this can be had, the following fever mixture will act nicely.

Sp. Nitrous ether, gtt. XLV.
Syr. Simp.
Aqua Dist. each, two ounces.
M et Sig. ℥ every hour.

Collapse: Apply external heat. Subcut aneous injections of normal salt solution, (approximately a teaspoonful to a quart of water), brandy, stryc. and the usual heat stimulants.

Convulsions: Hotat bh, chloroform, rectal irrigation and

tr. gelsemium in gtt. doses until relieved. All to be done as soon as possible. Chloral and bromides are useful, in very nervous or where the convulsions are threatened combine the gelsemium with the fever mixture. Pain in the bowels can be relieved by starch water irrigation with a small amount of turpentine added, and hot turpentine stupa to abdomen. Do not give opium in any form.

Subnormal temperature: Apply external heat, stimulants, and hot saline injection in the rectum.

Vomiting: If it occurs withhold all food from the stomach and feed per rectum. Mustard draft over stomach is useful, and bismuth, dry on the tongue.

Dowagiac, Mich.

SPALDING GETS THE GRAND PRIX.

Word has been received that American business ingenuity has again been rewarded at the Paris Exposition, this time in a new line. Messrs. A. G. Spalding & Bros. have received the Grand Prix of the Exposition for the best exhibition of goods and implements in the world. The Spalding exhibit is located in the American Section, in the Building of Varied Industries. It not only deserves the prize it received but is also regarded by many as the finest representation of any one line of goods in the American section. On three side walls are displayed in a very artistic manner, implements of the following sports: Base-ball, with a line of bats, balls, masks, gloves, protectors and all other paraphernalia of the game; Lawn Tennis, with a great variety of rackets and nets; Golf, in clubs of all kinds, from the humblest iron to the queerest of bulgers. There is also a great variety of gymnastic exercisers. Photographs of all the leading American games are shown. A mammoth case of quartered oak with bronze trimmings, which stands in the center of the space is the artistic feature of the exhibition. Inside this in clever grouping are shown not only base-ball, lawn tennis and golf supplies, but also foot-ball, basket-ball and croquet supplies, striking bags, boxing gloves, Indian clubs, dumb bells, ice and roller skates, guns and hunting clothes, fishing supplies and landing nets, and many other implements which must be known to every visitor to the Exposition.

ATHLETICS AND PRACTICAL PHYSIOLOGY IN MEDICAL SCHOOLS.

By Bayard Holmes, M. D.
Professor of Surgery in the University of Illinois.

It is certainly deplorable that medical schools are behind the literary iustitutions in the practical study and care of the bodies of their students. Since the introduction of the four year course, some medical schools have succeeded in a few or a single line of athletics. Our own college with a very little encouragement has put on the field a first class football team not given so much to training as hard playing. Such heavy athletics as football are adapted to medical students, who are naturally older than students in undergraduate schools. There has been, however, no systematic study of the men outside the team and no effort to build up the weak students or round out the physical development of the unsymmetrical.

In the June number of the *Harvard Graduates' Magazine*, the professor of physical culture of Harvard University, Dr. D. A. Sargent, has published an article entitled "Strength Tests, and the Strong Men of Harvard," which is worthy the study of every P. & S. student. This article gives an account of the methods used by Prof. Sargent to bring the athletics of his university upon a scientific basis. The students are measured and weighed on admission and at regular intervals afterwards. They are tested as to muscular effort and endurance in many ways. Only those that meet a certain average requirement are admitted into any of the teams. The training of men deficient in particular groups of functions is carefully prescribed. The testing room is not a place of inquisition, but a dispensary of diagnosis and prescription. The gymnasium furnishes the treatment.

If this method needed any recommendation the table of percental grades into which the men of Harvard during the first sixteen years have fallen would furnish it. The formula of total strength of a man is one which Sargent has used continuously since 1880, and the apparatus is also identical. This formula combines the weight and muscular strength of the student, in a more or less arbitrary manner, to be sure, and represents the results in points. Thus the total strength of a man has been represented by 175 points in the lowest, and 1600 points in the highest. The great and gradual improvement in the physical condition of the students from 1880 to 1886 is represented in a most

conclusive manner by two tables, which unfortunately can not be reproduced here.

In table 1 the total strength is placed in the left hand column, and in the columns to the right the number of men in Harvard each year, with the various totals. The rise of the average man is plainly to be seen. When the freshmen come in, they are in the bottom of the column and keep up the lower figures. During their course they are brought up toward the top. Table 2 shows in another way the grouping of the men according to Galton's percentile grades. The table shows that in 1880 5 per cent. of the 579 men examined failed to make a total of 275 points. Ten per cent failed to make 300 points. Half the men won 400 points, and 5 per cent. of them made more than 550 points. It will be noticed from table 1 that the strongest man had 675 points to his credit, and that the average man in 1896 did as well as the best 5 per cent. in 1880. In some grades in some years there is a dropping back from previous records, but the next year the advance begins again and the sum total climbs higher and higher for each grade until the tests of 1896 are reached. Here it will be observed that out of the 473 new men examined for the first time at Harvard, only 5 per cent. fell below a total of 375 points, while in 1880 forty per cent. of all the men in the college failed to reach that amount, and in 1881, 60 per cent. of the freshmen fell below a total of 375.

Men are now training in the preparatory schools for admission not only to Harvard but to other colleges and many men wait a year or two after they reach the educational requirements before entering Harvard, in order to bring themselves up to the limit which will allow them to enter the Harvard teams. The value of the team athletics cannot be over estimated when thus conducted, but it is no credit to a college, especially in a medical college, to have a rough and tumble team, or two picked up here and there with no training or drill and nothing to brag of except avoirdupois, brawn and rough playing.

The great mass of students can, of course, never play in any team and can never excel in any events, but they can balance up a regulated physical structure and thus gain mental and moral strength and long life. Criminals are notoriously maldeveloped. The undeveloped and the sedentary succumb to disease more readily than the active and vigorous. Medical men are expected

to direct the life and physical development of the people with whom they live and practice. It is notoriously disgraceful that there is not only no physical culture in the medical schools, but the most slovenly neglect of the most ordinary hygienic principles. Medical students are not too old to add to their physical stature and development. The human body does not reach maturity until 30. There is considerable growth in height until 26, about two inches under proper physical training in the years 20–26. This would now include the bulk of our student. This time is too valuable to be lost and it ought to be utilized in gymnastics, stimulated by a good line of team athletics.

There is no reason in forcing lectures and all sorts of laboratory and clinical work on men who are not up to their best physical condition. I hope to see the P. & S. establish an anthropometric laboratory, which will furnish the direction for gymnastic work and be stimulated by a football team, a boat crew, wrestling and sparring contests, baseball, lacrosse and track teams and a regular series of athletic meets and events.

This is the inevitable fate of medical schools. The laboratories have come to stay, the library has begun to grow and take its place as a central figure in all class work. Students' societies have been formed and unite medical students over the whole country into one fraternity. Now the gymnazium and the careful physical training of the medical students must begin and be carried to a reasonable degree of perfection. It is very appropriate that the medical students should be healthy and strong.

One of the most common arguments brought up against the introduction of athletics is the already overcrowded condition of the medical curriculum. This is an argument which could be used with equal force against an adequate time for meals and sleep. Physical exercise and bodily cleanliness which goes with it are essential to a vigorous intellect. Fifty years ago our literary colleges discovered this fact and began to act upon it, haltingly at first, but now in a rational and systematic manner. The improvement in the quality and healthful vigor of our literary education has been recognized by all teachers, but medicine has hung behind in this as well as in many other tendencies of the times.

Medical schools are now provided with lecture rooms, laboratories, libraries, and clinical conveniences, but with hardly an exception they are destitute of gymnasia, athletic fields and lavatories. Before our education reaches that efficiency which the subject demands, these equipments must be added and probably at the same time the feeding and social necessities of the student will be improved and provided for, either from the student initiative or by the coöperation of the college and student.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.

H. C. WADDLE, '03, Editor-in-Chief.

W. T. ECKLEY, M. D., D. N. EISENDRATH, M. D.,

W. A. EVANS, M. D., A. GEHRMANN, M. D.,

Associate Editors. L. HARRISON METTLER, M. D.,

Local Editor, L. H. S. FRECHTLING, '03

Class Editors:

C. W. BURT, '01, W. R. FRENCH, 02. R. L. ELDREDGE, '03

M. R. MARTIN, '04.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. COATES

Iumni Editor, DR. C. C. O'BYRNE, '94 Clinical Department, JOS. ZABOKRTSKY, '01

Athletic " R. C. CUPLER '01 Library Department. GRACE W. BRYANT.

Advertising Solicitor, GEO. E. ROSENTHAL, '02.

Publisher. - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE,** 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers will not hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

EDITORIAL.

Dr. Maurice L. Goodkind, author of the leading article of this issue of the PLEXUS, was born in Chicago 33 years ago. He received his literary education at Williams College, Williamstown, Mass., and his medical education at the College of Physicians and Surgeons, New York, graduating in 1889.

Dr. Goodkind was assistant to M. Allen Starr in neurgoloy and Delafield in internal medicine for one year. He was interne

at Michael Reese Hospital for eighteen months, and then studied in Vienna for two and one-half years. The doctor has been Professor of General Diagnosis at the P. & S. Colleg efor the past four years, is attending physician to Michael Reese Hospital. Dr. Goodkind is devoting himself exclusively to internal medicine and nervous disease and is recognized as authority in these lines.

* *
*

"It is certainly deplorable that medical schools are behind the literary institutions in the practical study and care of the bodies of the students."

The above words of Dr. Holmes, in this issue of the PLEXUS, exactly coincides with our ideas concerning the matter of athlethics. It is our opinion that decided steps should be taken along this line, by every faculty of medical college and what ever argument may be used in favor of systematic athletic training in the literary institutions can be as well used in favor of the same instructions in medical colleges. Surely the prospective doctor needs the physique of the literary student, and while the literary student spends sixteen hours a week in recitations, the medical student spends almost twice as much, making it the more necessary to have a part of his recreation time spent in systematic training to build up the physical, so he can meet the demands of the crowded curriculum and the arduous duties after completing his course.

If we are correctly informed, the action of our faculty in withdrawing financial support from the football team has been misconstrued. The financial support, as we understand it, was withdrawn because of the fact that the investment had not been a paying one. The faculty at the meeting in which financial support was withdrawn from the football team appointed a committee on athletics which is still in full force and it is to be hoped that this committee will soon report for progress along the line of systematic training in athletics. If there is to be a well regulated systematic course of training, it will have to have the hearty co-operation of the student body as well as of the faculty.

The athletic spirit at the University of Illinois seems to be most excellent as one can plainly see from the picture of their football teams which appears in this issue of the PLEXUS, and also from the fact that they have an athletic organization with

a student membership of seven or elght hundred. While a like organization in the P. & S. would not be able to reach these numbers, we should have one here with a membership of at least five hundred. What ever is good for the athletics at the U. of I. should likewise be good for the P. & S., the Medical College of the U. of I.

The climax of a systemstic physical training is the football and base ball teams. While a great many will receive great benefit from the training, a few will excel and find places on foot ball and base ball teams.

As an advertisement there is nothing better than a number one base ball or foot ball team. This has been demonstrated in the past.

It has been our pleasure to associate some with those who have been interested in athletics in the P. & S. College, and we have found them gentlemanly and scholarly fellows, a class of fellows any college could be proud to have as members of its student body.

* *
*

TRANSFUSION WITH SALT SOLUSION.

One of the greatest advances to which medical men can point with pride at the close of the century is the use of salt solution as a therapeutic agent both in the practice of medicine and surgery, Its employment as a substitute for human blood when great losses of the same have taken place, is of such frequent occurrence that one seldom stops to think of how we have come to use it for so many purposes at the present time. After the discovery of the circulation by Harvey, J. Potter evolved the idea of transfusion of blood. New blood was transfused in order to restore life in animals that had been bled. Boyle and Lower conducted these and other experiments. The blood of the same and of other species was employed. The first case of transfusion on man was performed by Jean Denis in Paris (1667), lamb's blood being used. From this time on attempts were made to use the blood of the lower animals but gradually abandoned, because they dissolved the human blood corpuscles so easily.

Then came a period in which blood was used which had either been defibrinated after having been taken from another human being or transfusion was made directly from the arm or leg of a healthy person to that of the patient. This has also been uni-

versally given up on account of the limited application and the difficulty of securing the persons willing to lose a large amount of blood. Salt solution was first employed in the early part of this century as stated by Leonpacher in a recent exhaustive article upon this subject, in the treatment of cholera in England, by mouth and rectum. Cantani was the first to use it subcutaneously in 1865 Its first use for surgical purposes was by Landerer in 1881. Its use then became more general. It has been found that the dilution of the blood with salt solution causes an increase of the white and red corpuscles and the organic salts. In septic conditions it stimulates phagocytosis, assists in the elimination of toxins by an increase of blood pressure and diuresis. During its early use the intravenous method of employing it was by far the most frequent, but this has been greatly supplanted by the subcutaneous method. In the last cholera epidemic in Hamburg the percentage of recovery after the intravenous infusion was 28% while the subcutaneous use showed 40% recovery. It has been used with excellent results in uraema, in diphtheria, puerperal fever and tetanus. Its use in surgery has been far more extensive than in medicine. Normal salt (0.6%) solution is employed after severe hemorrhages, such as may occur through accidents with injury of blood vessels, also after the immense losses of blood occurring in placenta praevia or after labor, to counteract the shock which so frequently accompanies crushing injuries or lengthy operations and lastly when severe losses of blood have taken place during an operation. Its action in these cases is probably due to several factors but principally to stimulation of the heart which seems to occur before sufficient solution has been absorbed to raise the blood pressure.

There are cases in which the effect of the salt solution will only be transitory and other stimulants must be given to keep up its good effect. There are other cases in which its administration alone is sufficient. As a rule however, it is better to use the ordinary cardiac stimulants in conjunction with it. For shock following operation it has no equal. The writer has employed it lately to stimulate diuresis after nephrectomy with very gratifying results. The best place to give it is in the inframammary region or in cases of cholera infantum (in which it has been successfully employed during the last few years), in the skin of the abdomen. In acute anæmia 1000cc. should be given at 98° F. and repeated every three hours. In chronic losses of blood 500cc. daily is sufficient. In post operative shock 1500cc. may be given but not repeated too often. An apparatus for the subcutaneous salt transfusion with two needles of large calibre is now sold by instrument makers and should be as important an addition to a physician's armamentarium as a stethoscope. He may save many a life through its prompt use.

D. N. E.

CLINICAL DEPARTMENT.

The clinical material presented during the first week of the present session was very abundant, and the manner in which these clinics were conducted was highly instructive to the class, which was proven by its attentiveness.

The recently appointed professors to this department, have already impressed the class with their ability as diagnosticians and careful operators.

Taking the clinical staff as a whole it is not to be excelled by any other such body in the city.

Space does not permit of a detailed report of each and every case, therefore, only a few cases will be detailed in this issue.

The first case is a minor one; but yet from the history and clinical phenomena, one might be led to make an incorrect diagnosis.

CASE I. Prof. Ferguson's clinic Oct. 4, 1900

Patient. Male, age 36; occupation, laborer; nativity, Dane.

Clinical History. (a). History of present illness: Patient while running September 26 fell, striking on his right shoulder and immediately experienced an inability to use his right arm.

(b). Personal History. No venereal history. Uses atcohol and tobacco moderately.

(b). Family History. Negative.

(c) Present Conditions. Laterally, patient is unable to raise extended arm above level of his shoulder also unable to extend his arms and bring them together forwardly; but was able to move his arm backward quite freely also able to place hand of injured member on opposite shoulder and at the same time bring the elbow near his body. The normal contour of the shoulder was well preservod. No crepitus; no injury to circumflex nerve, or muscles of the shoulder. Diagnosis. Slight laceration of capsular ligament.

Treatment. Rest, anodynes and application of heat for a few days, then active motion.

CASE II. Same clinic.

Patient. N. V. H.. age 4, male, nativity, American.

CASE II. Same clinic.

Clinical History.

(a). History of present trouble. Dates from birth.

(b). Personal History. He has had measles. When three months old was operated on for relief of hare-lip and cleft palate. About two years later he fell with the neck of a bottle in his mouth thus reproducing the former cleft.

Treatment. Operative. Patient chloroformed. Part made as nearly sterile as possible. The Davies-Colley method of closing a cleft palate was performed. The cleft being bridged across by means of two flaps. One is raised laterally, its outer border being free, while it is left attached to the margin of the cleft. The flap thus made is turned in the cleft, with its mucus surface toward the nasal cavity. The flap on the other side is raised like a tongue, its anterior end being free is brought across to the opposite side underneath the first flap, raw surface to raw surface, and thus fastened with a few stitches. The soft palate will be closed at a subsequent operation.

Professor Steele's clinic, Oct. 6, '00.

CASE I. Post-operative Hernia.

Patient. Male, age 21, occupation, bartender.

Clinical History.

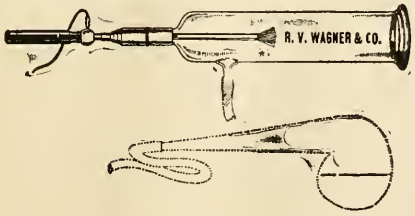
(a). Family History. Father died at 57 of heart tronble. Otherwise family history is negative.

(b). Personal History. Had measles, scarlet fever and pneumonia. Four years ago had an attack of appendicitis, was sick three weeks and recovered without operation. Four months later had another attack. Was operated on the second day and a large circumscribed abscess was opened.

A gauze drain was placed in the lower angle of the wound. Patient remained in bed two weeks. About three months later an abcess formed in the median line, midway between the umbilicus and pubes, which was opened. Pus discharged from this wound for several months. Patient wore abdominal belt for two years after the first operation. Patient uses tobacco and alcohol. Denies venereal infection. Present trouble: A short time after discarding belt be noticed a small protrusion of the lower portion of the scar in right side. This has gradually become larger, until now when patient stands it is about the size of an egg. Protrusion disappears when patient lies down.

Operation: Patient being anesthetized. The abdomen scrubbed. An incision through the healthy skin around the weakened scar tissue, which was carefully dissected and removed. The ideas of the hernial opening in the abdominal wall were freshened and brought together and held in place with a mattress suture; the skin was close over this. Wound cealed with colodian dressing. One week later dressing was removed and every alternate stitch taken out, then wound was redressed with colodian dressing. In two or three days the remaining stitches will be removed, patient will be given an abdominal supporter and allowed to go to his home.

Much attention is being given to the use of Static Electricity as developed by a Static Machine running at high rate of speed. For many purposes the current thus developed is of special value and its latest application for cataphoresis of gaseous substances, such as volatilized mercury, formaldehyde, oil of cinnamon, etc., has proven to be a most effective means of of applying such remedies direct to the diseased tissues and is an ideal treatment for consumption, tubercular joints, glands or any local infection. Dr. R. V. Wagner has lately invented and perfected an instrument which makes the use of Static cataphoresis most convenient and will enable any one having a Static Machine to avail himself of this new and effective mode of treatment.



The instrument consists of a glass cylinder made to fit closely to the skin at one end, while the other is fitted with an adjustible discharge brush; the brush should be attached to the positive pole, while the patient is in contact with the negative. The discharge of current passing from the brush to the patient through the gases or medicated air, (which may be admitted to the cylinder through an opening leading to a retort or other recepticle by rubber tubing) drives the substance in with much greater penetration and in a form more suitable than any other known means of cataphoresis.

Alumni Department.

'97 C. W. VIRTUE.

Dr. C. W. Virtue died at his home, 133 Bowery street, Akron, Ohio, Friday, Sept. 28, of paralysis of the heart,

Dr. Virtue was taken sick five weeks before with diphtheria, contracted from a patient. Is was thought several times he would die from the disease, but he recovered from the attack. But the disease left his throat in such shape that it was impossible for him to swallow. Paralysis of the heart finally developed and caused his death.

Dr. Virtue had been a resident of Akron three years, and was a practicing physician, enjoying a lucrative practice. He leaves a wife and two children. Dr. Virtue possessed the true spirit of a physician as was so well shown by his words of advice to the beginning practioner in this column of the PLEXUS a few months ago. The PLEXUS extends sympathy to the bereaved family.

'97. Dr. S. B. Dickenson was married to Miss Nellie Comings Shurtleff, at Austin, Ill., on Wednesday evening, Sept. 26. Miss Shurtleff is one of Austin's most popular young ladies and Dr. Dickenson is practicing in Austin, enjoying a very good practice. The PLEXUS sends congratulations.

'00. H. A. Vincent was married to Miss Kate M. Mortimer, of Kansas City, Mo., on Friday, Sept. 28, and will be at home at Perth, Kan. Dr. Vincent has been very successful since graduation and the PLEXUS sends congratulations and wishes him continued success.

'93. A. F. Wohlenberg is located at Stewart, Idaho, and is enjoying a lucrative practice. He has a drug store also.

'97. C. W. Carter, of Aledo, Ill., was a recent visitor at the PLEXUS office. Dr. Carter is well established and meeting with success in his practice.

'00. C G. Muehlmann, of Pekin, Ill. was a recent visitor at the PLEXUS office.

'98 C. E. Husk was a recent visitor at the PLEXUS office. He soon returns to Tapezela, Mexico, where he is nicely located and enjoying his practice. He reports that his friend and class mate C. L. Bennett, at Aquascalients, Mexico, has just recovered from a severe attack of typhus.

'92. J. H. Cole has moved from Thurman, Iowa, to Cedar Rapids. Ia.

'00. E. H. Tyson, 21 Quincy St., Chicago.

'00. P. S. Mitchell, Hammond, Ill.

'00. E. E. Martin, 4935 Indiana Ave., Chicago.

'00. G. A. Miller, 798 Van Buren St., Chicago.

'97. G. O. Switzer has changed from Pointwater, Mich., to Stanley, Wis.

'00. C. F. Crowley, 601 Garfield Blvd., Chicago.

'99. W. C. Olson is now located at 2139 Wabash Ave.

SANTA MESA, May 22, 1900.

EDITOR OF PLEXUS:

Dear Sir, I thought that it might be interesting to know that P. & S. graduates are in these islands as well as in every other land where the flag goes. I was in the class of "96" perhaps other classes are represented as well. Most of the physicians here are in the service of the United States, but there are some in Manila who care for the American and foreign residents.

The natives are glad to take advice and medicine from the American doctors if it is free, but they have no money to pay with. The Spanish friars have a college in Manila that gives the degree of M. D.

There are several American Dentists in Manila.

The Army Surgeons often give their services to the natives, and always take care of sick or wounded insurgent prisoners. Just after the rainy season when the waters recede and lay bare a large area of mud there is a great deal of malaria in the islands. The natives do not buy quinine but are very glad to take it when given to them.

It was in December that our regiment suffered most from malaria, that was at the end of the rainy season. We followed General Lawton to San Mateo and most of the Regiment is there yet.

I noticed that there were a good many deaths among the natives in January. January and February were very pleasant months, during that time Company H was kept busy hunting insurgents in the mountains east of the "Saguna" or Lake of the Bay. We had good health though we slept in our clothes with no other covering, and often they were wet from wading rivers. Each man carried raw bacon, ground coffee, and "hard tack" in his haversack and cooked for himself. Though under fire several times Company H has had but two men killed, several have been wounded but have recovered. April and May have been very hot months, and there has been a good deal of intestinal trouble. Those that are sent to the hospitals in Manila are well taken care of.

Guard duty is hard here as each man is on guard every other night, but the nights are beautiful, clear and not too warm.

At present the sun is almost directly over head at noon, in fact the sun is a little north of us and throws the shadow of anything to the south at noon.

We are living in the conical sibley tents at present but we have lived in block houses, convents, native shacks or "Nipa" huts, dog tents, and sometimes out doors without even blankets. When we stay in a camp for any length of time we have good food and plenty of it, Uncle Sam takes good care of his boys now that Secretary Root is in charge. Most of the monks and ouns left these islands sometime ago, and the big stone convents have been used as forts and barracks by the Spaniards and insurgents and now in some cases by the Americans. Company H found the convent at Tanay a very pleasant place with its large rooms and stone walls four feet thick it kept cool all day. The native huts look like bird cages they are raised six feet above the ground by four corner posts, the posts are of hardwood, but the rest of the building is made of bamboo strips tied together and covered over with Nipr leaves tied on. There is a bamboo ladder to reach the door. The house I had in San Mateo had but nne room, twelve feet square.

With best wishes to the college.

Yours truly,

JOHN R. HUDSON, M. D.
Co. H. 27th Infy. U. S. V.,
Manila, P. I.

LIBRARY NOTES.

GRACE W. BRYANT, Librarian.

For the benefit of the new comers, a few facts about the library may prove of service.

The Quine Library, situated on the second floor of the college building, is open for the use of the students, every week day, from 9 a. m. to 5 p. m. with the exception of Saturday, when it is closed at 12 m. It is a reference library, well supplied with text-books, indexes and files of the leading medical journals. It also has on file about 75 of the leading current medical periodicals. The library is in charge of a trained librarian, who is ready to assist the student in the use of the card catalogue, the indexes or in any way she can.

By the latest addition of new books, our library is brought quite up-to-date in each department. The complete set of Index Catalogue to Surgeon-General's Library will prove of greatest assistance in the Senior reference work, and fills a long felt want. The latest editions of Allbutt's System of Medicine, Loomis & Thompson's System of Medicine, and Dennis' System of Surgery are greatly appreciated.

So widespread is the interest in the part played by the mosquito in the transmission of malaria, that we are pleased to announce that the Department of Agriculture, has upon application, sent to us Dr. L. O. Howard's "Notes on the Mosquitoes of the U. S., giving some account of their structure and biology, with remarks on remedies." The aim of the author has been to bring together all the valuable facts about the mosquitoes of the United States in order to assist the physicians who are studying the malarial relation from the point of view of local conditions. References to all available papers on the subject of malaria and mosquitoes are cited, the bulletin thus serving as an admirable hand book to the literature of this subject.

The following articles by members of the Faculty have been noted in the journals.

Dr. G. F. Butler—Neurasthenia, *Doctors' Magazine*, Sept., 1900, p. 239.

Dr. A. J. Ochsner—Relation between gall-stones and appendicitis, *Phila. Med. Jour.*, Oct. 6, 1900, p. 652.

NEW BOOKS.

Allbutt, T. C. System of Medicine, 9v. 1900.

Bangs & Hardaway. American text-book of G. U. Diseases, 1899.

Bell, F. J. Comparative Anatomy & Physiology, 1885.

Bosworth, F. H. Diseases of the Nose and Throat, ed. 3, 1897.

Bramwell, Byrom. Diseases of the Heart and Thoracic Aorta, 1884.

Cabot, R. C. Clinical Examination of the Blood, ed. 3, 1889.

Church, Peterson. Nervous and Mental Diseases, ed. 2, 1900.

Clouston, T. S. Mental Diseases, 1898.

Dench, E. B. Diseases of the Ear, ed. 2, 1899.

Dennis & Billings. System of Surgery, 4 v. 1895-96.

Dudley, E. C. Diseases of Women, ed. 5, 1899.

Einhorn, Max. Diseases of the Stomach, ed. 2, 1898.

Foster, M. Text-book of Physiology, ed. 6, pt. 1 & 5, 1893.

Godlee & Fowler. Diseases of the Lungs, 1898.

Gowers, W. R. Diseases of Nervous System, ed. 2, 2 v., 1898-99.

Hammarsten, O. Physiological Chemistry, ed. 3, 1900.

Hare, H. A. Practical Diagnosis, ed. 4, 1899.

Heisler, J. C. Embroyology, 1899.

Johnson & Prescott. Qualitative Chemical Analysis, ed. 4, 1899.

Keyes, E. L. Diseases of G. U. Organs, 1894.

London Clincial Soc. Transactions, vol. 1, date, 1868, date.

Loomis & Thompson. System of Practical Medicine, 4 v. 1897-98.

MacDonald. J. W. Surg. Diagnosis and Treatment, 1898.

Moore, J. E. Orthopædia Surgery, 1898.

Purdy, C. W. Practical Urinalysis, ed. 5, 1900.

Quain, Jones. Elements of Anatomy, v. 2, pt. 1 & 2, v. 3, 4, apendix.

Remsen, Ira. Inorganic Chemistry, ed. 5, 1899.

Richter, V. von. Organic Chemistry, ed. 3, 2 v., 1899-1900.

Rohé, G. H. Text-book of Hygiene, ed. 3, 1899.

Schweinitz, G. E. de. Eye, ear, nose and throat, 1899.

Scudder, C L. Treatment of Fractures, 1900.

Simon, C. E. Clinical Diagnosis, ed. 3, 1900.

Simon, W. Manual of Chemistry, ed. 6, 1898.

Starr, Louis. Diseases of Children, 1898.

Taylor & Stevenson. Manual of Medical Jurisprudence, 1897.

Treves, F. Manual of Operative Surgery, 2 v., 1892.

La. State Med. Soc. Transactions, vol. 21, 1900.

STATE UNIVERSITY FOOTBALL TEAM.

The University of Illinois football team this year gives more promise of championship honors than it has ever given in the history of the institution. After the disastrous season of last year, the decided aud pronounced change for the better this year is very satisfying to the hosts of friends and alumni of the institution. The success which has attended the team so far, is due to the determination of all connected with the University and all friends of the institution to turn out a winning team.

So far the season is very satisfactory. Up to the Lompard game 132 points had been scored against opponents and no score had been registered against Illinois. The games won up to date with the scores are as follows:

Sept. 29 at Illinois—Rose
Polytechnic 0 Illinois 26.
Oct. 3 at Illinois—DePauu 0.
Illinois 63.
Oct. 6 at Illinois—Illinois Wesleyan 0.
Illinois 21.
Oct. 10 at Illinois—P. & S. 0.
Illinois 6.
Oct. 13 at Illinois—Knox 0.
Illinois 16.

Of these games the one with the College of Physicians and Surgeons was the only one of championship rating. It was the hardest played on Illinois Feld for some time and showed that the Chicago branch of the University can turn out a team almost on a par with the regular Varsity. The P. & S. defeat of Northwestern and the small score by Wisconsin are other indications of this.

The rest of Illinois schedule is as follnws:

Oct. 16 Lombard at Illinois
" 20 Northwestern at Evanston.
" 27 Michigan at Chicago.
Nov. 3 Purdue at Illinois.
" 10 Minnesota at Minneapolis.
" 17 Indiana at Indianapolis.

FOOTBALL TEAMS—UNIVERSITY OF ILLINOIS.

" 29 Wisconsin at Madison.

The regular Varsity has not been chosen this year but the men who have been assigned to the Varsity squad number about twenty. The line up against P. & S. is the best criterion of the 1900 Varsity. The heights, weights and year of playing of the most promising candidates are as follows:

Name.	Weight.	Height.	Year.
Lowenthal	180	5 ft. 10 in.	3
Hanson	200	5 ft. 7 in.	1
Stahl	180	5 ft. 11½ in.	2
Lindgren	176	5 ft. 9 in.	3
Pollard	170	5 ft. 11 in.	2
Hall	160	5 ft. 8 in.	4
Jutton	151	5 ft. 10 in.	2
McMullan	151	5 ft. 10 in.	1
Matthews	137	5 ft. 7 in.	1
Cayon	145	5 ft. 9 in.	1
Coak	159	5 ft. 9 in.	2
Lundgren	168	5 ft. 10½ in.	2
Rothgeb	170	5 ft. 11½ in.	1
Deener	186	5 ft. 10½ in.	1
Arnold	181	5 ft. 10½ in.	1
Clayton	172	5 ft. 11 in.	3
Waldorf	165	5 ft. 11 in.	1

From a relative study of scores made by the prominent western teams up to date, Illinois can easily claim to be on a par with all the big western teams. From her games with Knox, P. & S. and Illinois Wesleyan her relative standing with Chicago, Northwestern, Wisconsin and Purdue can easily be determined. Up to date she shares with Iowa the distinction of not having been scored on. The true test of her standing will come later.

The coachers this year are: Fred L. Smith, Princeton. '96; Edgar G. Holt, Harvard, ex '94; Princeton, '97 and F. Way Woody, Illinois, '95.

ATHLETIC ITEMS.

How is it that P. & S. has a football team this year? This question has been asked far and near, due to the action of the

faculty in withdrawing its financial support. We would have had no team at all had it not been for the efforts of a few lovers of the college game. As it stands now our team has placed P. & S. in a class with the best in the West. The boys have been handicapped in a financial way and with even these trying odds to battle against, have given P. & S. a champion 1900 team. If P. & S. wants athletics, a football team, a baseball team and a Gym. and keep pace with every other recognized medical college, it will necessitate the hearty co-operation of the students. A plan to meet this has been suggested and will immediately go into effect; it is the organization of a students' athletic association. Each member will have an equal right to vote and elect proper officials to best direct the interests of the association, the election of managers and captains of the various departments. Money will be raised by selling a right to membership, probably buttons will be sold. This is a rational manner by which athletics at P. & S. will still be maintained, and it is hoped each student will be interested and cheerfully join the association.

The first real game of the year was played at Evanston Sept. 29. Dr. Hollister asked for a game Sept. 25th, and after the little nuclei of a team which had gathered around the college at that time had held a council of war it was decided they would give N. W. U. a date; the few remaining days passed with just one practice. Saturday the day of the game found P. & S. twelve strong and some of the men green on signals. There was a general rehearsal during the trip to Evanston, and the real show began at 3.30; Northwestern losing the ball often on downs and had P. & S. offensive been better the score would have been rger. At the end of the first half the score stood 0 to 0; the ball was kept near Northwestern goal during most of the last half, each side battering away without gain, with only five minutes to play, when Lockwood and Pickett opened the way for Comstock to make what the daily papers said to be the most sensational run ever seen on Sheppard field, he in his flight shook off three tacklers. Score, P. & S. 6, N. W. U. 0.

LINE UP.

N. W. U.		P. & S.
Elliott	L. E.	Dowdall
Shock	L. G.	Obie
Hanson	L. Q.	Lockwood
Ward	C.	Cory

Baird	R. E.	Poorman
Deitz	R. G.	Schillo
Daly	R. Q.	Bothne
Schradenbran	Q. B.	Turner
Fleager	R. H.	Thompson
Davidson	L. H.	Pickett
Johnson	F. B.	Comstock

Umpire, Tillitson, referee, Hainer. Time of halves 25–20.

On Friday of the week following the game at Northwestern, the University of Wisconsin wired asking for a game to be played the next day; after another council it was decided to accept. The boys, still tired from the heavy work of the previous week, started for Madison Saturday a. m. Play was called at 3 o'clock. Wisconsin kicked off, P. & S. fumbled, Abbott fell on the ball, for the next two minutes Wisconsin's playing was desperate and effectual and only ended when Riordan had crossed the line for a touchdown. Fratt failed to kick goal. The remainder of the half the ball zigzagged between the two goals, Wisconsin losing frequently on downs. On one long punt by P. & S., Schrieber picked up the ball on the two yard line, and attempting to dodge a tackler ran back of the goal line where he was thrown by Dowdall. On this P. & S. claimed a safety, after which the game was concluded by King and the other coachers. Line up.

Wis.		P. & S.
Abbott	L. E.	Dean
Chamberlin	L. Q.	Lockwood
Riordan	L. G.	Major
Skow	C.	Corey
Leorum	R. G.	Parry
Curtis	R. Q.	Schillo
Juneau	R E.	Dowdall
Fratt	Q. B.	Turner
Driver	R. H.	Pickett
Marshall	L. H.	Donkle–Bothne
Schrieber	Q. B.	Comstock–Bothne

Score—Wis. 5, P. & S. 0. Time of halves 25 and 20 minutes.

Immediately following the Wisconsin game the University of Illinois wired for a game, asking it to be played at Champaign the following Wednesday, October 11th. An answer of acceptance was sent. The game resulted as the daily papers stated, in one of the hardest fought games of football that ever took place on Illinois field. It was decided in the University's favor on a fluke. Stahl blocked a kick which Lundgren picked up and ran

fifty-five yards for a touchdown. The line up:

Illinois.		P. & S.
McMillan	R. E.	Dean
Lundgren	R. Q.	Lockwood
Stahl	R. G.	Major
Lowenthal	C.	Corey
Hanson	L. G.	Lunn
Pollard	L. Q.	Schillo
Hall	L. E.	Donkle
Matthews	Q. B.	Turner
Rothgeb	R. H. B.	Bothne
Cayou	Q. H. B.	Parry
Lundgren	F. B.	Sloan

Score—Illinois 6, P. & S. 0. Touchdown, Lundgren; referee, R. Wrenn; umpire, E. Wrenn; timekeeper, Everett & Diener. Time of halves, 20 and 15 minutes.

NOTES OF THE GAMES.

At the Northwestern game Drs. Evans and O'Bryne were enthusiastic rooters.

A reporter asked Dr. O'Byrne the name of P. & S.'s end which was Poorman. The doctor thoyght it would be a good family name for Hollister's eleven.

When Pickett hit the line for a good gain, Dr. Evans hurrahed for the 15th amendment and remarked that's a heap for a Southerner to say.

Harry Everett, our faithful coach was very much in evidence along the side lines. The policeman thought so too.

Corey lost one of his shoes just at the close of the last half.

To say that Capt. Bothne, Lockwood and Corey did fine work, would do an injustice to the others as every man was a bunch of ginger from beginning to end.

AT WISCONSIN.

Wisconsin's eleven surrounded Corey, who sat on the ball during the wrangle over the touch back decision. Corey is evidently a giant if it requires eleven to move him.

The boys enjoyed a delightful swim in the large tank at Madison.

AT CHAMPAIGN.

Turner misconnected some of his signals. During his endeavor to right the affair turned a little Chinese. President Draper came upon the field and stopped the game until he had a

literal translation of Turner's dialect. He insisted that Turner be removed as Illinois field was no place for a boxer; especially so good a linguist as our only Turner.

Everybody out for the P. & S.—Rush game November 16th.

CROUPOUS ENTERITIS.

By J. T. Biggs, M. D., Stamford, Conn.

Sarah S., age 40 years, Irish, admitted Nov. 26th. Diagnosis, croupous enteritis. The patient presented the following symptoms: Temperature 101. Feeling of fullness and distress of the abdomen: This was followed shortly by pains of a colicky character, severe and oppressive, felt mostly around the umbilicus, and associated with great tenderness. These attacks would occur for about an hour, and after an interval of two hours occur again. Following these phenomena in about twenty-four hours there was a decided looseness of the bowels with distressing pains and tonemus. The stools contained mucous with blood and shreds of membrane, and some cylinderical casts of the bowel. Following this discharge the patient enjoyed great relief, although there persisted a feeling of rawness almost constantly. The patient had occasional attacks of hysteria and neuralgia, nervousness and hypochondriasis.

The patient was put to bed and an absolute bovinine diet prescribed, a tablespoonful every two hours in peptonized milk. Her bowels were thoroughly moved with emulsion of caster oil.

Dec. 3rd the bovinine was increased to a wine glassful in peptonized milk every three hours.

Dec. 10th the patient's temperature was normal, soreness and distention of the abdomen had subsided and for five days she had had no attacks of colic. For two days previous there had been no blood in the stools, no cylindrical cast of the bowel, and a lessened quantity of membrane shreds. From this time on the bovinine was given a wine glassful every three hours, in peptonized milk alternating with wine of tar. Her convalescence was more rapid and uninterrupted. On Dec. 26th she was discharged, cured.

In this condition although the prognosis is favorable as to life, it is certainly one of the most difficult of all diseases to thoroughly eradicate. Therefore, I claim that this case is of great interest, as the cure was complete, rapid and uninterrupted, and was certainly entirely due to the blood treatment.

SENIOR NOTES

CLASS OFFICERS:

W. D. McDowel—Presidentl.
Jack J. Little—Vice-President.
F. W. Buss—Secretary.
Joe Zabokrtsky—Treasurer.
Chas. W. Burt—Class Editor.

In entering upon this work which the class has asked that I should do, I wish to thank the members, one and all, for the honor whlch you have bestowed upon me by electing me as your class editor. for certainly I feel that it is an honor to be a class officer of such a large, dignified, and intelligent class as '01. It shall be my aim and desire to show no partiality, and I certainly hope to offend no member. If at any time I shall have seemed unkind or unjust, why simply look upon it as a joke, as it was intended only as such. On the other hand I ask and hope I may receive the hearty co-operation of the entire membership of the class to assist me in this work. Literary contributions in the way of personals, locals or jokes shall be gladly received.

The tidal-wave which recently swept over Galveston, Texas and wiped out so many dear lives and destroyed thousands and thousands of dollars worth of property was sad indeed; but the news which was floating and awaiting the return of the senior class was likewise sad and unexpected. Although sorely disappointed we are ever willing to abide by the decision of our worthy faculty and believe that they have nothing in store for us but that which is to our best interest. What has been our loss will be somebody's gain.

Dr. Harsha (To a patient who had contracted a specific disease). "Now I think we can cure you. We will give you some medicine to take internally, some to take externally, and some to take eternally."

Dr. Babcock sends Clark to bring some Green soap and towels. Clark returns with a cake of green soap and towels which he procured in the sleeping room. All *green* soaps look alike to Clark.

Of the several additions to the Senior class this year

are two young gentlemen from the medical department of the University of Iowa, Messrs. McCall and Ridenaur. We extend to all earnest workers a hand of welcome.

Mr. Howard, of Washington, went home for a visit, and while there passed the state board examination and accepted a position with an old practioner at a salary of $250 per month, so we are told. Mr. Howard is a fellow of good judgment and integrity, consequently he knows when he has a good thing. We are sorry indeed to lose Mr. Howard from our number, but we glory in his success and shall look forward to the day when he shall return and complete his course at P. & S,

The Senior class had a goodly representation in the relief corps which went from Chicago to Galveston, Texas last month. Those who went seeking work to relieve the sufferings of the wounded could find it, and those seeking trouble found it also. For farther information along this line, ask Frank why he left home in such a hurry, all at once.

Have the members of the class noticed Mr. S. whiskers and Davies' mustache? If not, approach either gentleman from in front and examine closely just under the lower and anterior margin of the chin in Mr. S's case, while in Davies' case the examination must be directed to the upper lip on the external surface and just a little below and to the right or left of the aloe of the nose.

Cupid is ever awake. The class of '01 wish to extend to the Messrs. Tilmont and Wheat, congratulations, and request that they bring the new members of the family over and make us acquainted.

Wheat says that he has a room-mate this year that is hard to beat. "I wonder why?"

A member of the class—Say where is Van Horne? A second member—Oh he took a move, you will find him in the front row—for a while.

The present quiz class is the largest from any one class in the history of the institution—we believe it to be not only the largest but most promising.

Our loss—So far as I am able to learn the Senior class has lost four of its members of last year; viz., Howard, Avery Holmberg and Brawley. We regret very much that circum-

stances are such that they are unable to be with us. Oh yes, there is "Idiopathic." I had almost forgotten him.

Perhaps the most significant, if not the earliest, application of nick-names is that given Hubbard by Von Wedelstaedt. Indeed, Cupid suits Hubbard nicely.

The Senior class has some pretty big stories, and perhaps swallow some, but do you believe that Congenital Malformation story of Mrs. Thorwick's?

Conway is still an A. P. A. and is ready at any time to stand his ground in defense of the order.

Geo. Bracken has recently adopted a new name, henceforth he shall be known as "George Francis *Loretta Hogan* Brrchen."

Messrs. Oliver, Cameron and Lampe were conspicuous on account of their presence in the Senior class the last few days. Now we do not accuse these gentleman of leaving the quiz class because it was too stiff for them—not at all. They concluded that regular class work would be more advantageous for them in the future.

D. E. Kisecher was employed by the Pinkerton Detective Co. early in the vacation. Here he proved to be very serviceable and trustworthy. He remained with this company for about a month, when he resigned to accept a position with the Knickerbocker Ice Co., of this city. This work did not prove so hard, as all that was required of him, was to stand on the ground floor and throw cakes of ice weighing 100 pounds up to the second story. I am told that he attained such a high degree of proficiency in this work that often times he would hurl the cake on up to the third floor.

JUNIOR NOTES.

Geo. W. Kimball has taken a year's "leave of absence" to teach the "young idea how to shoot" and we dare say with a shoot as well. He is located at Kendallville, Ind.

Wayne L. Stillman was married at Storm Lake, Ia., Sept. 19th, to Miss Caroline Foel. They are at home at 1026 W. Harrison St., Chicago. How about the cigars, Stillman?

SOPHOMORE NOTES.

The erstwhile D. J.s are on hand for the fall term in all the dignity (?) of Sophomores, their ranks augmented by a goodly number of three year entrants, including a large number of coeds. We miss from the old class, however, Rolf Butler and Golden, who are attending other schools; Miss Negano, whom, we are informed, has returned to her native country, and Cornell, who is otherwise occupied.

"Oscar" is with us. He is not a cripple now.

We understand Silverberg has joined the benedicts.

J. A. Uran was obliged to go home Friday Oct. 5th and underwent an operation for appendicitis the same day. We all hope for his speedy return, as the operation was apparently successful.

Those professors who were with the class last year must have realized that they were among friends when they appeared before the class. We were all glad to see them.

Supt. Browne is always a welcome visitor.

FRESHMAN NOTES.

A meeting of the Freshman class was held on the afternoon of Tuesday Oct. 9th. The object of the meeting was to elect the officers for the ensuing year and the perfecting of class organizations.

J. L. Eisendrath was made tempory chairman, and S. W. Case temporary secretary .The cleetion proceeded with the following results:

President	J. L. Eisendrath.
Vice President	H. H. Hattery.
Secretary	E. D. Barker.
Treasurer	Miss G. T. Hagans.
Editor	M. R. Martin.
Bouncer	G. J. Krupp.
Assistant Bouncer	J. H. O'Neil.

H. M. Sloane played on the football team at Champaign and consequently was compelled to cut out his classes that day.

NEWS ITEMS.

Is your subscription due? If so, please remit.

The U. of I. foot-ball team plays the U. of M. eleven on Marshall Field grounds next Saturday, Oct. 27. Let us go and give the U. of I. boys hearty support, as a victory for them is also a victory for the P. & S. Ho! for a tally-ho party.

A. E. Beyer, of the Senior class, is representing The International Tailoring Co. If you are desiring anything in this line, see him before purchasing elsewhere. He has a full line of samples. He guarantees every garment as to fit and finish.

The Physiological laboratory is nearing completion. We shall give complete details of this in a later PLEXUS.

The political pot is boiling now and members of the college are showing interest in their respective candidates 'Can I get transportation home?" is the all important question.

Don't forget the Illinois–Wisconsin game at Marshall Field grounds, south side, next Saturday. Let us all turn out and "root" for the Varsity boys.

Is your subscription due? If so, "dig."

BOOK NOTICE.

THE SURGICAL DISEASES OF THE GENITO-URINARY TRACT. By G. FRANK LYDSTON, M. D. Professor of Surgical Diseases of the Genito-Urinary Organs and Syphilology in the Medical Department of the State University of Illinois (The College of Physicians and Surgeons, Chicago); Professor of Criminal Anthropology in the Kent College of Law; Surgeon in Chief to the Genito-Urinary Department of the West Side Dispensary; late Major and Surgeon U. S. V.; Fellow of the Chicago Academy of Medicine; Fellow of the American Academy of Political and Social Science; Delegate from U. S. to the International Congress for the Prevention of Syphilis and Venereal Diseases, held at Brussels, Belgium, Sept. 5, 1899, etc. A text-book for students and practitioners. Illustrated with 235 engravings, 1011 pages. Price, cloth, $5.00, half Russia $5.75. F. A. Davis Co., publishers, 1614–16 Cherry St., Philadelphia.

This text-book by Prof. Lydston is intended as a guide for both students and practitioners. Most of the space is given to a consideration of diseases of the male organs, though some part of the work is occupied with diseases of the female organs. The author brings to the subject the observations of a large clinical experience. His extensive experience as a teacher is shown in his marshalling the facts of that experience. The chapters are

full and no subjects carry the idea of having been "skimped." The treatise teems with the author's personality. His views on stricture of large caliber and we may add on nearly all important subjects in genito-urinary surgery are well known and they are set forth here with the author's usual force. The construction of his sentences is easy, yet the ideas lose none of their directness. It is a most excellent text-book and should find a broad field of usefulness.

COUGH SEDATIVE, ANTISPASMODIC AND ANALGESIC.

In epidemic bronchitis and all the various allied laryngal affections, codeine is a most valuable remedy for relief from the harrassing cough and pain, and when combined with antikamnia the analgesic effects are harmlessly emphasized. This combination is best administered in antikamnia and codeine tablets. No more favorable combination could be had in the cough of phthisis and chronic bronchitis. This is abundantly attested by clinical data which shows the combination to be the best succedaneum for opium.

Another advantage of codeine over morphine, one of special value in bronchial catarrh, is that the patients not only cough less, but also expectorate more easily than after morphine. The cough-dispelling power of codeine is such as to make it indispensable in phthiscal patients, and a point of great importance in these cases is that it does not impair the appetite or digestion, and can therefore be used uninterruptedly for months.

Geo. Brown, A. M., M. D.
Specialist Eye, Ear, Nose, Throat and Lungs.
Atlanta, Ga.

SANMETTO FOR IRRITABILITY OF THE GENITO-URINARY TRACT, EITHER SPECIFIC OR NON-SPECIFIC.

It affords me pleasure to attest my appreciation of Sanmetto. I have used it quite extensively for the last eight years, and the results have fully justified all the good things I had read about it. I use it in both males and females. For irritability of the genito-urinary tract, either specific or non-specific, my results are good following the exhibition of Sanmetto. I shall continue

Defiance, Ohio.

J. D. WESTRICK, M. D.

FEVER THERMOMETERS 75c.

Have you seen the thermometer that registers in one minute, has a magnifying index and is contained in aluminum case. It is our regular dollar value and we offer it to students at 75c.

DRAKE & DRAKE.

299-301-303 Ogden Ave., Chicago.

GEORGE W. POST, M. D.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS,

VOL. VI. NOVEMBER 20th, 1900. NO. 7.

BLOOD.*

GEO. W. POST, M. D.

What do You know about the life blood which circulates in your veins? Not much, I venture to say, and yet there is in our language a wealth of aphorisms and trite sayings and colloquialisms regarding the blood, each one of which, perhaps, contains a grain of truth and is the expression of some shrewd observation.

It is a curious thing that so much has been said on a subject of which so little is known.

The statement is made that "the blood is life." Do you suppose that that is a fact?

There is a current belief that hereditary characteristics are transmitted by means of the blood, which appears in the phrases "Blood will tell," "Blood is thicker than water," "It runs in the blood," etc. The stock-raiser speaks of his best animals as "blooded stock," of his half breeds as "half-bloods," and of his thorough-breds as "full-bloods;" while the product of the union of the races is said to be of "mixed blood."

An aristocrat is a man of "Good blood and breeding," a "Blue blood."

So also to the blood is given the credit of determining the nature of the passions which dominate an individual. A course

*Addrsss delivered to Y. M. C. A.. in Clinical Amphitheater, College of P. & S.

of action deliberately planned and carried out is called "cold blooded," while the deeds of fierce excitement are done under the influence of "hot blood." A football player is not fit for battle until his "blood is up." A murderer is said to have his "victim's blood on his soul."

Now, let us see in how far modern scientific research supports these time-honored ideas. The text books of 25 years ago stated that blood was a thick, opaque fluid varying in color from bright scarlet to dark purple or black. Its reaction was alkaline, its sp. gr. 1055. and it constituted about $\frac{1}{10}$th of the body weight. It consisted of two kinds of small bodies, the red and white corpuscles, which floated in a fluid medium called the plasma. The plasma contained a substance capable of coagulation, and when deprived of the coagulum or clot, there remained a thin yellow fluid, the serum, composed of water, albumen and salts. The proportion of red corpuscles to white was stated to be 300 to 1.

The red corpuscles were biconcave discs $\frac{1}{3200}$ inch in diameter. They derive their color from hæmoglobin and their function was the carrying of iron to the tissues.

The white corpuscles were $\frac{1}{2500}$ of an inch in diameter and irregular in shape, owing to the possession of the property of amœboid movement. Their functions were unknown.

A prominent authority who wrote in the year 1875 says. "Their great inferiority in number (to the red corpuscles) shows that they are less important for the immediate continuance of the vital operations; and the same thing is to be inferred from the want of strongly marked specific characteristics." The opposite of this is true.

Blood study has been very active during the last quarter century, and has received its greatest impetus from the staining methods introduced by Ehrlich, and the use of the high power microscopic objectives. Modern blood work is done under the following heads.

1. Examination of fresh specimens.
2. Counting the red and white corpuscles.
3. Estimate of the relative volumes of corpuscles and plasma by the centrifuge.
4. Estimate of the amount of coloring matter with the haemoglobinometer.

5. Estimate of the specific gravity,
6. Examination of dried and stained specimens.
7. Bacteriological examination of the blood.

Today the student who wishes to make a special study of the blood is given a piece of fresh bone, as, a rib, and is told to squeeze out some of the marrow on a cover glass and examine it with a high power. Among the debris of fat globules, etc., one gradually becomes able to pick out red and white corpuscles, and notices that some of the red corpuscles are nucleated. There are also many very large white corpuscles, which have a large nucleus and their protoplasm studded with large granules. These from their habitat are called myelocytes.

Neither nucleated reds nor myelocytes are to be found in normal blood, and, when they do enter the general circulation, are an evidence of disease. The bone marrow is the great factory of the blood corpuscle trust, although there are smaller concerns in the spleen and lymphatic glands. The next step in blood work is the examination of fresh blood, a somewhat difficult matter to the untrained eye on account of the transparency and lack of color of the corpuscles, both red and white.

Next comes the drying, fixing and staining of permanent specimens; a process which has brought to view so many new features, especially of white corpuscles, that new zest and interest has been given to this whole field of investigation. Specimens may be stained a single color, or with a double stain, or a triple stain. Ehrlich's triple stain, which is a combination of red, orange and green, is the most useful and popular.

Examination of such a stained specimen shows five different kinds of white corpuscles in normal blood, but it is pretty well settled that these represent different stages in the life history of a single leukocyte.

1. There is a small corpuscle not much larger than a red corpuscle, having a deep blue nucleus surrounded by a thin envelope of clear protoplasm. They are called mononuclear leukocytes or lymphacytes, because their origin is in lymph glands. They are most numerous in the blood of the fœtus and of infants.

2. There are found white corpuscles three or four times as large as the lymphocyte, but also having a smooth round nucleus,

which is large and pale blue and covered by a thin layer of clear protoplasm. These are large mononuclear leukocytes.

3. There occur a few large white corpuscles similar to these last except that their nuclei are notched on one side, and the protoplasm contains many very fine granules, looking like a pink haze. They are called transitional forms and represent an intermediate stage between the large mononuclear leukocytes and the fully developed white corpuscles which are next to be described.

4. The fourth variety is the adult leukocyte. It is smaller than the transitional form and has a deep blue nucleus which is drawn out in irregular shapes so extreme that they were formerly called polynuclear leukocytes. However, it is all one nucleus, twisted and pulled into many shapes so that these cells are now called polymorphonuclear leukocytes. The protoplasm is pretty thick and is filled with granules which can be distinctly seen and are stained best by a neutral stain, which gives them the name of neutrophiles, or those which love a neutral stain.

The adult white corpuscle, then, is properly designated a polymorphonuclear neutrophile, and its functions are many and varied; the one best understood being their defense of the organism against the invasions of micro-organisms. These are the white corpuscles which have amœboid movement, and, when circulating in the blood, they make it their business to catch and swallow up whatever of foreign matter should be destroyed. They are especially apt at eating up bacteria and other micro-organisms and from this fact have received the name of phagocytes. After a malarial plasmodium has burst into many embryos it is very interesting to see the phagocytes coming in from all sides to catch and engulf the individual segments. They do not spend all their time in the blood stream but are able to enter or leave the blood vessels at will, and to wander through the other tissues of the body. It is this habit which twists their nuclei so much out of shape. They love excitement and flock in great numbers to any wound or point of irritation. They have a special antipathy to colonies of bacteria and proceed to wage war to the death with such invaders and with varying success.

If successful, the yeat up their adversaries and destroy them and their products root and branch; or else with the aid of con-

nective tissue, they build up a fibrous barrier around the enemy. cut off his food supply by turning aside the blood vessels and eventually starve them to death, or they perish from their own noxious products "hoist" as it were "with their own petard."

If on the other hand the white corpuscles are unsuccessful, the invading hordes having beaten off the white defenders proceed to colonize and multiply with all speed and to manufacture poisonous products which they discharge into the circulation poisoning the whole organism. This is toxæmia. Or, having opened a vein, they may rush into the blood current in such countless millions as to sweep aside all opposition and be pumped by the heart throughout the general circulation. This is septicæmia. Or, finally, having entered the blood or lymph vessels, they may lodge in other sites and start new colonies and new depots of infection. This is pyæmia. In any case many white corpuscles are killed and wounded and these with the tissue juices and other debris form a creamy fluid, which is pus.

The pus corpuscle is a polymorphonuclear neutrophile which has perished in a patriotic struggle to defend his native land, and his shriveled nucleus and transparent broken protoplasm bear mute witness to the violence of the combat.

Moreover, he is game to the last, for even in his death and decomposition he produces that ferment which causes coagulation of blood, closes the mouths of bleeding vessels and pre vents fatal hemorrhage.

5. The fifth variety of leukocytes are those which have passed middle life; and it is a lamentable fact that only 2-4% of white corpuscles live to grow old. Those which survive, however, show marked changes. They grow smaller and their nuclei become even more broken and fragmented. The protoplasm is shrunken and filled with large refractile granules which take an acid stain, and since eosin is the acid stain commonly used, they are called eosinophiles.

The trichina spiralis has a special power of producing premature old age among white corpuscles, and in this disease the percentage of eosinophices runs up to 40, 50 or 60 per cent. of the whole number of leukocytes. The finding of such marked eosinophilia, has in several recent instances lead the physician to

suspect trichiniasis, and examination of muscle fibres verified the suspicion.

Altogether the white corpuscle leads a pretty lively existence and shows a good deal of ingenuity, if not intelligence.

A man weighing 145 lbs., contains in his blood alone, forty billions of leukocytes, which is about thirty times the population of the globe. It gives one a queer turn to think that he is inhabited by such a multitude of active, earnest, independent beings, and that he is commander in chief of an army of this size which stands ready to defend him to the death against those forces of nature which would destroy him.

Are they parasites? No.

Do they have an individual entity of their own? Possibly.

Do they choose their actions and manner of living? They seem to.

Do they embody the essential life principle? Perhaps.

That is a curious statement in Gen. 4:9-10 which says, "And the Lord said unto Cain, where is Able thy brother? The voice of thy brother's *bloods* crieth unto me from the ground."

The remaining constituent of blood, namely, the serum, presents to us the greatest problems which confront the medical world. The nutrition of all of the various tissues of the body is carried to them by this stream. Blood serum is the carrier and distributes all the poisons, organic and inorganic which act upon the body. The problems of immunity, whether natural or acquired, belong to blood serum. The investigation of this fluid belongs probably to the domain of organic chemistry rather than to biology or bacteriology, but this investigation has hardly been begun.

In clinical matters, blood has come to occupy a very important place in modern medicine. The spirillum of Obermeier which is the cause of relapsing fever was the first pathological organism to be found in the blood and was described in 1873. The plasmodium malariæ was recognized as the true cause of malaria in 1880, but the knowledge did not become general until ten or twelve years later. The treatment of diphtheria by antitoxic serum has not been in vogue but five or six years, while the Widal or agglutination test for cholera, typhoid and yellow fever dates from 1894. It was first observed in cholera.

The primary anæmias which are chlorosis and penicious anæmia are diagnosed by the blood examination, and the same is true of leukæmia and pseudoleukæmia. I have in one instance diagnosed gonorrhœal infection by finding intracellular diplococci in the white corpuscles of blood taken from an inflamed knee joint. Leukocytosis is present in all systemic infections with but six exceptions, and its presence or absence furnishes an important aid to diagnosis. A medical curiosity is the filaria sanguinis hominis. And finally it is common in examining fresh blood specimens to see micro-organisms motile and non motele the nature of which is unknown.

What are the lessons which can be drawn from this brief resume as regards personal hygiene and the prevention of disease?

1. Keep your blood pure and vigorous by furnishing it with proper materials.

2. Guard all avenues against infection. Avoid abrasions of the skin and mucous membrane, and, if they occur, cauterize and seal them. Breathe uncontaminated air both day and night. Drink water of unquestionable purity and sterility. Do not eat food which on account of bad cooking or decomposition may contain micro-organisms or ptomaines. Intestinal decomposition of food is a very common cause of blood deterioration especially in the aged. It is frequently fatal.

And now having taken this general view of the subject, let us inquire why the blood is given so important a position in our Christian religion. We read that "The wages of sin is death," that "Without the shedding of blood there is no remission of sin, and that "The blood of Jesus Christ cleanseth us from all sin."

The ancient Hebrews were taught (Leviticus 17–11) that "the life of the flesh is in the blood." Notice the accuracy of the statement. I know of no scientific fact which confutes it. There exists in all intelligent beings an instinctive reverence for blood and a horror of seeing it flow out of the blood vessels. It is not uncommon for persons to become sick and faint at the sight of blood as many a medical student can bear witness. Moreover an uncontrollable hemorrhage will shake the nerves of the stoutest hearted surgeon. In human beings this fear might be attributed

to education, but it could not be true of the horse which is thrown into a frenzy of terror by the smell of fresh blood; nor of the tiger, leopard and other large cats, which, when brought up in captivity, are made wild with rage at the first smell of fresh blood.

In looking over one's past life, it is natural for one to see his shortcomings and to be depressed thereby, and in extreme cases to feel as if his life had been wasted. Sin leads to disease, to misery and to death.

If a man, filled with a sense of his own sin, which leads to death, wished to express his sorrow to his Creator in some tangible form, what is more natural than that he should make a formal offering of shed blood which is the symbol of death?

In some primitive tribes the penitent shed his own blood by cutting his flesh with knives or sharp stones, but the Hebrew having more regard for his body, offered instead the blood of his most valuable animal, "the firstling of his flock," and he went to Jerusalem every year to make his blood offering as a sign that he realized his imperfections and was repentant.

In the fullness of time our Savior came on earth, showing to mankind the highest, purest and noblest type of life, a life so full of majesty and gentleness, of truth and good will to men that its elevating influence has come down steadily through the centuries in everwidening circles and will continue to spread and uplift humanity to the end of time.

But men do not accept new truths without a struggle, and the very perfection of the life of Jesus so pricked the consciences of evil men that they killed him; using a physical argument against moral force, which is futile.

But by the shedding of his blood in death he became the last sacrifice for sin; so that all who live after him, who feel that they are not worthy of the glorious life with which they have been endowed, may look to his blood as their atonement and may receive pardon from their Creator.

Moreover, by this act we are born into the possession of a portion of his spiritual life, a vital principle, which broadens and elevates us ond makes the world look all fresh and clean before our eyes.

The life principle of Jesus our Lord is steadily leading mankind to higher and better things.

The Revelator says: "For thou wast slain and hast redeemed us to God by thy blood out of every kindred and tongue and people and nation." And again "For the life was manifested and we have seen it and bear witness and shew unto you that eternal life which was with the Father and was manifested unto us."

It is the development of this life which called into being the great nonsectarian societies, of which the Young Men's Christian Association is an exponent. It is good for young men to band themselves together for mutual strength and encouragement, and to lead others to avail themselves of the benefits of this new life.

It is fitting that the Y. M. C. A. should be active in schools of learning, and its influence is especially needed in medical schools. The volume of work required of a medical student is so enormous, and the pursuit of scientific facts so interesting and engrossing, that he is in danger of having his conceptions dwarfed concerning that moral, psychical and spiritual realm which is beyond the physical.

Many a medical student who has had the training of a Christian mother and the influence of a Christian home, has unwittingly allowed his finer feelings to become atrophied from disuse. Stick to your best ideals!

Every man loves the fraternal spirit. Have it and show it. Do some personal work among your friends. A young soldier in the pride of his new uniform saw a cavalry man of the enemy galloping towards him across a field. The boy was unarmed and his scruples getting the better of his valor he ran to the nearest fence and throwing himself over into the ditch beyond, lay breathless in the hope that he had not been seen. But no, he heard the thud of approaching horses feet and presently saw the face of the trooper glaring down at him along a carbine barrel. "Come out of that ditch," cried the horseman, "come out! And he came out. That was personal work.

Don't be afraid to speak to your friends of religious things. Many of them are yearning for a sympathetic word. An Irishman was engaged in carrying brick and mortar up into a house

when he slipped at the second story and fell down through into the cellar. A fellow workman ran down to him, turned him over and said: "Pat, are you dead?" There was no response for a moment, but finally Pat rolled up an eye and replied: "Na, Oi'm not dead, but Oi'm spachless!" There are a good many Christians like that.

Be true to yourselves, to your own manhood and womanhood. Be true to your mother whose life blood flows in your veins. Be true to posterity, and hand down your life legacy the better for the time it has been in your possession.

Finally, be true to the Saviour, whose blood made atonement for our evil deeds, and whose spiritual life will lead the human race onward and upward in a never ending vista of noble and righteous development.

GEORGE RUBIN, M. D.

MEDICAL EDUCATION IN PARIS AND IN FRANCE IN GENERAL.

There are seven faculties of medicine and sixteen schools of medicine in France. The faculties are situated in Paris, Bordeaux, Toulouse, Lille, Nancy, Lyon and Montpellier; and the schools of medicine are evenly distributed throughout the country in proportion to the population.

None of the schools of medicine have the right to confer diplomas. After completing the course of studies at any of the schools of medicine, which lasts about five years (sixteen trimesters), it is necessary to undergo a final test before one of the faculties of medicine.

What is true of the Paris faculty is true of all the others in France, and I shall therefore, for the sake of convenience, treat only of the faculty of medicine of Paris.

REQUIREMENTS OF ADMISSION.

All aspirants for a diploma of Doctor of Medicine must show the following credentials: A certificate of birth; an authorization of father or guardian if the candidate be under eighteen years of age; a certificate of recent revaccination, and a diploma of Bachelor of Letters or Philosophy, or certificates of having studied physics, chemistry, botany, zoology aud physiology or general embryology.

The register of inscriptions is open from the 15th of October to the 15th of November, and under no consideration can one enter the institution after the first of December.

THE COURSE OF STUDIES.

First year: Anatomy, histology, physiology, biological chemistry and general pathology. Laboratory work: Organic chemistry, biological physics, dissection and histology.

Second year: Anatomy, histology, physiology, general pathology, medicine and surgery. Practical work: Assignments to hospitals and dissections.

Third year: General pathology, experimental and comparative pathology, obstetrics, pathological anatomy, medical; natura

history, medicine and surgery. Practical work: Assignments to hospitals, pathological anatomy and animal and vegetable parasitology.

Fourth year: Therapeutics, hygiene, medical jurisprudence, materia medica and pharmacology, medical and surgical clinics, obstetrical clinics, applied chemistry and physics to hygiene and therapeutics, history of medicine and surgery. Practical work: Special hospital duty, obstetrics, pharmacognosy and bacteriology.

Fifth year: All the work is practical and mostly optional.

LECTURES AND CLINICS.

The students are not obliged to attend the lectures, but it is best for them to attend them, as examinations are held at the end of every trimester on the work gone over during that period.

All the practical work is obligatory. At the end of every trimester each student receives certificates for the work accomplished, provided the work was done satisfactorily, and these certificates together with those of the general examinations go to make up the student's "dossier," which is absolutely necessary to present to the faculty in order to be permitted to take the final doctorate examinations.

Candidates for graduation must undergo five separate examinations, covering all branches of medicine, and in addition to that they must write a thesis on any subject they choose. The thesis goes through many hands and is connected with lots of "red tape" and formalities, finally it goes to the printers. The author must pay all the expenses, and he is obliged to furnish one hundred and eighty copies to the faculty.

The jury of examinations, which is made up of members of the faculty and agrégés (associate professors) mark the examination papers in a peculiar way; *a*, a white ball, means very good; *b*, a white-red ball, means well; *c*, a red ball, means fair; *d*, a dark red ball, means mediocre, and a black ball means bad.

THE TIME OF THE ENTIRE COURSE AND EXPENSE.

Although the time required to accomplish the whole medical course is only five years or a little less, yet the time spent by the average student is seven years.

"Plucking" is very common here. The French student

doesn't worry about being "plucked" as does the American student, nor is it considered a disgrace by French students to be "plucked."

Time is no money in France, and the student takes it very easy. The majority of the students spend more time in the cafés than in the libraries. The students, as well as the rest of the people, do not know what hurrying is. It takes them an hour to get away with a glass of beer, and a couple of hours to eat lunch or dinner. That is why so very few Frenchmen die suddenly from heart disease as so many Americans do. The Frenchman takes his time even to die; he chooses tuberculosis, chronic alcoholism, tabes and other slow deaths. An American is frequently exasperated by the slowness of the people. It is next to impossible to get a thing done for the time you have contracted for.

The cost for the sixteen trimesters, including the examination fees and other expenses connected with the school, is 1,385 francs, or $277.00. Board and lodging in the "Quatier Latin" can be had for about thirty dollars a month.

There are about four thousand students in the Paris Faculty of Medicine, of which one hundred and fifty are women. Among the hundred and fifty women only forty are French and the rest are foreigners. This shows that the French women are not very anxious to become doctors. The figures would be quite different in the schools of art and music.

The students are well organized. They have only one society, of which every student is a member. There is a good deal of fraternity among them, as they leave it to the faculty and to the administration to do the sifting, and, therefore, it is understood that all those who are accepted in the school are worthy of it, hence they are all equal.

The association does a good deal in the way of aiding its members materially. Very few students drop out from school for financial reasons.

TO PRACTICE MEDICINE IN FRANCE.

No one can practice medicine in France who does not possess a diploma awarded by the French government. Foreigners who intend to practice medicine in France are subject to the same rules and regulations as the Frence students; but those who

PASTEUR INSTITUTE, PARIS—Main Building,

INJECTION OF ANTI-HYDROPHOBIA SERUM,—By Dr. Shaihent, at the Pasteur Institute

intend to return to their native country, will receive credit for all the work done in their own country, and after taking some work in one of the faculties here, and passing satisfactory examinations and paying the sum of 1,385 francs, will receive a "Diplome Universitaire" in contradistinction to the "Diplome d'Etat, which gives the right to practice medicine in France.

To practice medicine and surgery in Paris, one must have a license which costs 250 francs or $50.00 per annum.

THE FACULTY.

The faculty is composed of the professors and agrégés, or associate professors. The former is appointed by the President of the republic on a proposition by the minister of public instruction. In case of death or resignation of a professor, the faculty selects several men, usually from the corps of the associate professors, and the names are handed into the minister of public instruction, who proposes one of them to the President of the republic, who makes the appointment for the vacancy.

The professors are retired not before they are seventy years of age, except on their own request. The professors who are members of the "Institute de France" are retired at the age of seventy-five.

The agrégés are appointed by a competitive examination for a period of nine years. When their term expires they may be retained by the faculty in their former capacity, but more frequently they are appointed to some hospital.

The reader has probably noticed that no mention was made above of such chairs as gynecology, ophthalmology, laryngology, etc. All these branches are called complimentary chairs, but they are nevertheless obligatory, and are taught, usually, by the agrégés. They also take the places of the professors during their absence, sickness or vacation. The agrégé corresponds to the "Privatdorent" of Germany or Austria. They all rank second to the professor.

INTERNES AND EXTERNES OF THE HOSPITALS.

All the appointments of internes or externes are made by competitive examination. Only externes are allowed to compete for interneships. The term of externe is three years; but he may compete for interneship any time during his service.

The term of an interne is four years, but he has the privilege to resign at any time. The duties of the externes and internes are not unlike those of our internes and externes, with the exception that here they are given more consideration and are the chiefs of their respective departments, except when the attending men are present.

SPECIAL ADVANTAGES TO THE STUDENTS.

One of the most complete medical libraries in the world is found within the walls of the school. A student with limited means need not spend a "sou" for books, as the library is open at all hours, and it has many attendants and other conveniences. Besides text books and other standard works they also receive the most recent medical journals and periodicals. There is also in connection with the school an anatomical and pathological museum, which was endowed by the famous French surgeon, Dupuytren, whose name it bears. The museum is very complete and very interesting; it is interesting both from a scientific and a spectacular point of view.

All the laboratories in the school are very complete and kept in excellent order. The dissecting rooms are spacious and scrupulously clean, and contain usually lots of good material.

The Faculté de Medicine de Paris, as a whole, is worthy of much praise. A like institution and system would undoubtedly be an acquisition to the medical education in the United States.

GEORGE RUBIN.

PARIS, Sep. 1, 1900, 11 Rue Scribe.

PHYSICAL TRAINING.

HENRY H. EVERETT.

Formerly Professor of Physical Training University of Ill. Instructor in Gymnastics University of Wisconsin, etc., etc.

Professor Du Bois Reymond of Berlin has said "We seek in vain in most of our Physiological text books for instruction respecting exercise".

Perhaps in no field of scientific research bearing directly on practical medicine is more to be discovered and demonstrated than in Kinetic physiology, the influence of exercise on growth, muscle, bone, nerve and connective tissue is not well understood.

Our medical colleges are giving elaborate courses in Anatomy Pathology, Medicine and Surgery but nothing is said or taught as to the development or care of the body by means of physical movements. In this short paper I have attempted to outline a course, in Mechano Theraphy and Physical Training, which will give the student at least an intelligent idea of these most interesting and valuable remedial agents, ie Gymnastics and Massage. While it is not presumed that the busy practictioner has either the time or inclination to practice Massage or to teach gymnastics it is essential that he should have sufficient knowledge of the branches to direct their application. It is admitted that it is much easier to write a prescription and it takes less time than to prescribe an elaborate course of exercise or massage, but in certain cases the results are less satisfactory. A case of Scoliosis can be better treated by exercise and massage than any other known means. Exudations and infiltrations are often better treated by mechanical means, yet how many physicians can give the necessary instructions as to the specific exercises or the specific manipulations to be used—these cases would be greatly harmed by certain exercises consequently we are not doing ourselves, or our patients, justice to simply direct them, to "take exercise", as is so often done.

In Europe notably Germany and Sweden Mechano Theraphy is much used and studied. In this country one of the foremost

exponents of this branch is Weir Mitchell of Philadelphia it is the essential factor in his famous rest cure.

Thure Brandt of Stockholm has made himself famous by using massage in diseases of women. Billroth, Esmarch, Von Mosengeil, Volkmann, and many other noted men are warm advocates of mechano therapeutics.

Our text books constantly refer to massage as beneficial in this or that condition, yet, not one word do we hear in the class room as to technique, in fact the prevailing idea is, that rubbing and massage are synonomous, such however is far from true, to illustrate, a sprained ankle properly treated by massage and movements recovers in eight or ten days the patient in the mean time keeping on the foot. By rubbing, cooling lotions, rest etc., it may be a matter of weeks before recovery is complete.

Another important branch and one closely allied to gymnastics is Anthropometry, a knowledge of this will materially aid one in making a correct physical diagnosis as to the condition of the various parts of the body.

In pedagogy it has had considerable influence in correcting educational methods and it is coming into prominence in Educational institutions throughout the country.

In connection with didactic work a labratory should be fitted up where not only the students could be examined but patients as well, comparative strength tests and measurements could be taken for clinical use and in this way much valuable data could be had. The following outline will give some idea of the field which could be profitably covered by a course in Mechano Theraphy and Anthropometry.

MASSAGE.

(a) Technique
(b) Indications and contra indications
(c) Physiological and Therapeutical effects
(d) Use of in.
  (1) Orthopedics
  (2) Joint Diseases
  (3) Genito Urinary organs and Gynecology
  (4) Diseases of Digestive Organs and Abdominal Cavity
  (5) Diseases of Central Nervous System

GYMNASTICS.

Phenomena of (a) Breathlessness
(b) Fatigue
(c) Stiffness
(d) Overwork

Modifications of organs and their functions by exercise.

Physiological classification of Exercises.

Exercises which develop the chest.

Effects of brain work on the body and the effects of exercise on the brain.

Therapeutics of Exercise.

ANTHROPOMETRY.

(a) Technique
(b) Strength tests
(c) Physical Deformities
(d) Graphic Anthropometry
(e) Laws of Growth
(f) Prescription of Exercise

Aside from the above work our students should have the advantages of practical work in the gymnasium which would include instruction in general body building, developing of special groups of muscles, etc. Calisthenic exercises, Clnb Swinging, Fencing, Sparring, Wrestling, Apparatus work and last but not least we should have a good base ball nine, and continue to hold our place in the college world with our foot ball team. In short there is no reason why P. & S. cannot offer the same facilities to students which Yale, Harvard and other leading institutions are offering. We have the material and spirit in the student body. Will the College furnish the apparatus?

THE PLEXUS

THE OFFICIAL ORGAN OF
THE COLLEGE OF PHYSICIANS AND SURGEONS
MEDICAL DEPARTMENT
UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.
H. C. WADDLE, '03, Editor-in-Chief.
W. T. ECKLEY, M. D., D. N. EISENDRATH, M. D.,
W. A. EVANS, M. D., A. GEHRMANN, M. D.,
Associate Editors. L. HARRISON METTLER, M. D.,
Local Editor, L. H. S. FRECHTLING, '03

Class Editors:

C. W. BURT, '01, W. R. FRENCH, 02. R. L. ELDREDGE, '03
M. R. MARTIN, '04.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. COATES
Alumni Editor, DR. C. C. O'BYRNE, '94 Clinical Department, JOS. ZABOKRTSKY, '01
Athletic " R. C. CUPLER '01 . Library Department. GRACE W. BRYANT.

Advertising Solicitor, GEO. E. ROSENTHAL, '02.
Publisher. - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE**, 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers willnot hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

We desire to again call the attention of our readers to the fact that at the close of each volume we issue a Table of Contents so as to enable those who desire to have the PLEXUS bound, can have a neat book. At the present size of the PLEXUS a volume, makes a book of about 350 pages. If you are contemplating binding, call at the PLEXUS office and inspect our volume.

The future of the College of Physicians and Surgeons become brighter and brighter as time passes. Now comes the good news, that Drs. Quine and Steele have each given $25,000, for the benefit of the Library and Laboratories respectively. This news following that of the purchase of the West Side High School building for college, purposes indicates the fact that, not only is the college, at present, too large for its buildings, but that it will continue to grow and improve, at a very rapid rate in the future.

The present enrollment is 650, an increase of 70 over last year, and almost three times as great an enrollment as we had in '95 and '96.

The fact of our great increase is due largely to the individual efforts of the public spirited men, such as Drs. Quine and Steele.

Dr. Quine, while interested in all departments of the institution, has been giving a great deal of his attention to the library, which bears his name, and has given freely to it during the past few years. It is through his efforts that we have one of the best, if not the best, medical library in the United States, and it is to be greatly benefited by this generous donation.

Dr. Steele, one of the original founders of the college, has been greatly interested in the laboratories of this institution and our college has always been in the advance as to laboratories, being the first college of the west to put in laboratory work.

Dr. Steele has been the most prominent man in making the institution what it is—and is always ready to do that which will add to the welfare of the college.

It is to be hoped that we may again announce, through these columns, similar donations and we hope also that some public spirited benefactor will not forget the fact that we need a well equipped and well regulated gymnasium and we are sure that the student body as well as the faculty, would hail with *great* joy such a donation.

SUBARACHNOID COCAINE ANAESTHESIA.

The injection of cocaine into the subarachnoid space of the spinal cord, as a substitute for several anaesthesia for all operations below the diaphragm and to relieve the pains of parturition is receiving much attention. To Dr. J. Leonard Carning, belongs the credit of first suggesting the method as far back as 1884. Oberst and Bier have demonstrated its feasibility, while Tuffier has elaborated its technique. Cases in which it has been employed have been reported by Murphy, Pitesti Marx and others.

A perfectly sterilized hypodermic syringe with a needle sufficiently long and strong to penetrate to the subarachnoid space of the lumbar cord, may be used. It is also imperative to employ only a perfectly fresh sterilized solution of cocaine—usually 15 to 25 minims of a 2 per cent. solution.

The operative technique may be described as follows: The patient is in a sitting posture, with both arms carried forward. The field of injection is asepticised and rendered anaesthetic with ethyl chloride. Locate the iliac crests: an imaginary line connecting the two crests passes through the fourth lumbar vertebra. Injection beneath this line penetrates the medullary canal. The spinous process is located with the left index finger and the patient then told to bend forward thus causing a separation of three-fifths of an inch between the adjacent vertebra. The needle should be inserted to the right of the vertebral column, about two-fifts of an inch from the line of the spinous process. As soon as the needle is in the subarachnoid space it meets with no resistance and through it there escapes drop by drop, the clear cerebrospinal fluid.

"*Never inject the cocaine solution before you have seen the cerebrospinal fluid escape through the needle.*" After withdrawal of the needle the puncture is closed with sterilized collodian. In four to eight minutes there is a tingling sensation, followed by numbness in the feet. This gradually extends up the legs and the sensation to pain and heat disappears. The analgesia which

soon becomes complete, will last from one to one and a half hours. Some of the by—or after—effects are a feeling of weight in the epigastrium, anxiety, nausea, vomiting, headache, chills, etc. Insominia profuse sweats, dilation of pupils, shaking of limbs and other ill effects have been observed.

All kinds of operations upon the legs and in and about the abdomen and pelvis have been done under this method of anæsthesia. Dr. S. Marx has even employed it in five cases of ordinary labor and speaks enthusiastically of it as a means of relieving the pains of childbirth.

While so much is being said and done about cocainization of the spinal cord, it is well to remember that the operation is not without some danger. The method is really that of lumbar puncture, and as Gumprecht reports lumbar puncture for diagnostic purposes alone has caused seventeen deaths. Racoviceaun Pilesti reports 125 cases and concludes that the method cannot take the place of chloroform or ether on account of its inconveniences and the inconstancy of the cocaine solution.

Altogether the method needs further careful trial before it can be popularized as a systematic means of producing anæsthesia. L. H. M.

SANMETTO ONE OF OUR POSITIVE REMEDIES; ONE OF OUR FEW THERAPEUTIC CERTITUDES.

I think I am almost peculiar in my practice of not recommending proprietary medicine. The merits of Sanmetto are such, however, that I cannot refrain from adding my testimony relative to its merits. I have used it quite extensively, and it has never disappointed me. It is one of our positive remedies; indeed, it is one of our few therapeutic certitudes. I heartily commend it to the confidence of all physicians.

W. C. Cooaer, M. D.

1865 Cincinnati Ecl. Institute; Mem. Ohio State Ecl. Med. Soc., Author of "Tethered Truants."

Clinical Department.

In a brief manner it may be stated, that the clinical material has been abundant and varied during the past month.

The bedside clinics are especially instructive and it is hoped that more attention will be given to this branch in the near future. The students are brought in close contact with the patients and given more time to study the symptoms of each case in a systematic manner, which leaves an everlasting impression.

The case reported in this issue is an interesting one, from the fact, that the patient has undergone several operations. Was operated on four years ago for removal of hemorrhoids. March 30, 1900 had inguinal colotomy performed for relief of complete intestinal obstruction due to a simple stricture of the rectum. Oct. 7, 1900, had constricted portion of rectum removed.

History in detail as follows:

Prof. Steel's clinic March 30, 1900, Mrs. H. N., age 35, civil state, married. Occupation, housewife; nativity American.

Family History: Negative.

Personal History: Has had the usual diseases of childhood. Had influenza ten years ago and malaria eight years ago. Menstruation began at 15, always regular until spring of '99, since then menstruations were irregular, but not painful. Had one child. No miscarriages. General health good.

Present Trouble:—Eight years ago patient began to experience severe pain and itching in the rectum. Stools were bloody. About five years ago patient says she had two small tumors removed from the rectum. This did not relieve the itching. Four years ago was operated on again for hemorrhoids. About six months after operation, began to suffer from constipation, which has been growing worse. Stools are thin, ribbon like and bloody. Pain is severe during bowel movements. For several days has been unable to evacuate the bowels. Has lost fifty pounds in weight during past year. Appetite good. No uninary symptoms.

Examination:—Lower bowel would not permit the passage of a small sound.

Operation: Aseptic preparation. Incision of three inches in left iliac region through the skin and fascia. Muscles were separated. Peritoneum separated between two tissue forceps, loop of colon brought up into the wound and anchored with silk worm gut sutures. The colon was opened subsequently.

On May 19, 1900, patient returned to the hospital to have the artificial opening dilated.

Oct. 7, 1900. Since the first of June patient has been in good health and has gained in weight. For several weeks she has been troubled with prolapse of rectum and the escape of a very offensive material both from rectum and artificial anus. During the last three weeks she has noticed that the solution used for irrigating the artificial anus, passes through the lower bowel and out of the natural anus.

Operation:—Surgical preparation. Incision extending from just above the anus a little to the left of meridian line and down to the bone exposing the coccyx and sacrum. The tissue dissected from under or anterior surface of coccyx and sacrum. The coccyx and two lower segments of sacrum were removed. The colon was drawn down as far as possible and caught with forceps; the rectum was cut off, and dissected away from above down to the anus. A finger being introduced into the vagina as a guide and care being taken not to injure the bladder. A number of vessels were ligated with catgut. Colon drawn down to within five inches of anus and anchored to the skin with four heavy silk sutures and several silk worm gut sutures. Skin and muscle incision closed to new anus with deep silk worm gut sutures. Gauze drain left through anus and just below the point of attachment of the colon to the skin. Plain sterile gauze dressing.

Patient left the hospital three weeks after the operation and will return in six weeks to have the artificial opening in the iliac region closed.

Alumni Department.

'85. R. M. Curtiss, who recently spent two years doing post graduate work at Johns Hopkins, is now assistant in Histology at his Alma Mater. He is now located at 95 Evanston Ave., Chicago.

'98. Wm. Petersmeyer is doing well at Aston, Ill.

'99. M. J. Klein, 1002 Wellington Ave., Chicago, was a recent caller at the PLEXUS office. Dr. Klein is doing nicely and is well pleased with his location.

'00. C. F. Osborne was recently married. He is located at Aredale, Iowa.

'00. C. Delamere Wall is located at 636 W. 14th St., Chicago.

'00. R. J. Dysart is on medical staff of Northern Hospital for Insane at Oshkosh, Wis.

'00. F. W. Sassaman was elected coroner of Porter county, Indiana, in the recent election. Dr. Sassaman represented the democratic party, and was elected by 362 votes. He is located at Valparaiso, Ind.

LIBRARY NOTES.

GRACE W. BRYANT, Librarian.

The library is indebted to the following for gifts during the last month: Dr. W. S. Christopher sent us between five and six thousand journals, which have helped wonderfully in completing our files. Besides the journals there were also two hundred reprints and twenty books. Dr. H. P. Newman, 390 journals; Dr. D. N. Eisendrath, 16 books, 585 journals; Dr. W. E. Quine, 12 books, 150 journals, 500 reprints. Our file of journals is becoming very complete. Our greatest needs now are British medical journals and London Lancets; any back numbers of these are solicited.

The following articles by members of the Faculty have been noted in the journals during the past month:

Dr. W. A. Evans—Tuberculosis, its zoologic and geographic distribution. Jour. A. M. A., Oct. 20, 1900, p. 994.

Dr. L. H. Mettler—Charcot and the Salpetricil, Doctor's Mag., Oct. 1900, p. 27.

NEW BOOKS.

Amer. Surgical Assoc. Trans. V. 18, 1900. Association, donor.

Avery, E. M. Elements of natural philosophy, 1880, Dr. D. N. Eisendrath, donor.

Boston Health Dep't. of. Annual Report. V. 26, 1898, Boston Med. Library.

Braithwaite, W. ed. Retrospect of practical med. & Surg. V. 1-4, Boston Med. Library.

Brass, Arnold. Atlas of human histclogy, 1897; College, donor.

Broadbent, J. F. H. Heart disease, 1900; College, donor.

Burr, C. B. Psychology and mental disease, Ed. 2, 1898; Dr. W. E. Quine, donor.

Christison, J. S. Brain in relation to mind. 1889; Dr. W. E. Quine, donor.

Christopher, W. S. Summer complaint & infant feeding, 1892; author, donor.

Colorado state medical Society. Trans. V. 30, 1900; Society, donor.

Coplin, W. M. L. Manual of pathology, Ed. 3, 1900; College donor.

Connorton. Cook Co. and State of Ill. medical directory, 1897; Dr. W. E. Quine, donor.

Crutcher, Howard. Appendicitis, 1897; Dr. W. E. Quine, donor.

Detroit Med. and Library Assoc. Trans. 1891; Dr. W. S. Christopher, donor.

Deutsche medicinische wochenscrift, V. 14, 15, 1888-1889; Dr. W. S. Christopher, donor.

Ellingwood, Finley. Materia medica and therapeutics, 1898; Dr. W. E. Quine, donor.

Evans, W. A. Notes on pathology; Dr. W. E. Quine, donor

Flint, Austin. Principles and practice of medicine, Ed. 6, 1894; Dr. D. N. Eisendrath, donor.

Gage, S. H. The microscope, Ed. 7, 1899; college, donor.

Ganot, A. Elementary treatise on physics, Ed. 12, 1886; Dr. D. N. Eisendrath, donor.

Hill, D. J. Elements of psychology, 1888; Dr. D. N. Eisendrath, donor.

Illinois, Health B'd. of. Principal poisonous plants of the U. S., 1899; Dr. W. E. Quine, donor.

Illinois, Health B'd. of. Sanitary investigations of the Illinois river, 1900; Dr. D. N. Eisendrath, donor.

Illinois state medical soc. Trans. V. 48, 1898; Dr. W. E. Quine, donor.

Klemperer, G. Grundriss der klinischen diagnostick, Ed. 5; Dr. D. N. Eisendrath, donor.

Lee, A. B. Microtomist's vade-mecum, Ed. 5, 1900; college donor.

Leonard, J. W. ed. Who's who in America, 1899; Dr. W. E. Quine, donor.

Lloyd, J. U. Etidorpha, Ed. 9, 1898; Dr. W. S. Christopher, donor.

Martin, H. N. The human body, Ed. 6, 1894; Dr. D. N. Eisendrath, donor.

Mass., Health B'd. of. Annual Report, V. 26-29, 1895-98; Boston Med. Lib.

May's, T. J. Pulmonary consumption as a nervous disease, 1891; Dr. W. S. Christopher, donor.

Mich., Health B'd. of. Proceedings and address is of health officers, V. 4, 1900; Mich. B'd. of Health, donor.

Milwaukee, Health Dep't. of. Annual report, V. 4, 1892; Dr. W. S. Christopher, donor.

N. H. Asylum for the Insane. Annual report, 1894; Dr. W. S. Christopher, donor.

N. Y., Health B'd. of. Annual report V. 19, 1899; Dr. Bayard Holmes, donor.

N. Y. State University, College Dep't. Annual report, V. 2, 1900; N. Y. Univ., donor.

Santee, H. E. Brain and spinal cord, 1898; College, donor.

Science, V. 8-9, 1886-1887; Dr. D. N. Eisendrath, donor.

Texas State Medical Assoc. Transactions, V. 32, 1900; Association, donor.

SENIOR NOTES.

Dr. Quine quizzing Van Horne—Give etiology of leucæmia.

Van Horne—Starvation and constipation.

Dr. Quine—Do starvation and constipation always go together?

Is Dr. Church here?

Wm. Wells is conspicuous this term on account of his tardiness at classes. The malady has become chronic and treatment should begin at once.

Medical Bureau of information—Andrew Ames.

What's the matter with Dodson this term he seems to be so quiet and isolates himself in one corner of the Amphitheater? Why Dodson—didn't you know he is a married man now? Sure Dodson is the head of a family now-a-days.

Harvey Bradfield was chaperoning a young lady and gentleman through the college Oct. 24. Did you see him all dressed in his best? Well I guess. Did he see you? Not on your tin-type.

Wm. Birk went to his home in Ohio to attend the wedding of his sister and assisted in pulling the knot sufficiently tight that there might be no after leakage through the ligature.

Ringo, Burke and Lampe were duly initiated into the Nu Sigma Nu fraternity Oct. 20, 1900. It is surprising how man will humiliate himself for the momentary amusement and entertainment of others. Perhaps they thought "For Joy Cometh in the Morning" after which they may stand and shake their sides while some other fellow plays the "fool" act in order that he too may belong to the "special few."

The first official meeting of the senior class was held Oct. 9, 1900, in C. A. A motion was made and seconded to ask Dr. Quine if he would not confer with Dr. Turck and see if he would not occupy the hours 1 to 2 on Fridays and Saturdays of each week, instead of from 5 to 6 on the same days, The motion carried. Dr. Turck consented. "Ask and ye shall receive" an excellent motto.

Geo. Dohrmann seeing the picture which Ames is so enthusiastically taking orders for—the picture representing a lady with a nude skull, asks how it was taken—with the X-rays?

Perhaps there are a few members of the class who were not acquainted with Mr. Rouse, a former member, but to many he shall ever retain a pleasant memory of acquaintance. Last fall Mr. Rouse experienced the sad misfortune in the death of his wife, leaving him with the care of three little children. This necessitated his leaving school and look to the welfare of the little ones. Mr. Rouse made a flying visit to the college halls last month and grasped the hands of many of the fellows and wished them a successful termination this coming May.

Mr. Rouse informs us that he is interested in mining stock in Utah which promises a very bright future. While the class regret that Mr. Rouse cannot graduate with us, we do wish him little labor with great reward.

The seniors appreciate the new adventure in the method of running the Dispensary, i. e. when the regular attending physicians are present to conduct them and guide them in their search to find the cause of the disease and lead them to a correct diagnosis and most recent method of treatment. But oh dear—why are we compelled to endure the torture of having to listen and be bored by some of those last year's graduates?

Why some of those fellows are as readily "balled up" as nature's first white precipitate which is thrown down in the fall months. The nerve of some people is surprising.

Erick Soegaard was struck by a missle from the explosion of a cannon fire-cracker Saturday, Nov. 3d. Erick says it was only one of the many Democratic crackers which were furnished and ignited by the party with the hopes of exterminating some good Republican. Erick is still on earth despite the Democrats.

Drs. Martin and Lampe, while serving their turn at the Maternity Hospital, had an experience which to them seemed perhaps sad, but to others, amusing indeed. The story goes something like this, viz: Instructions were given for the doctors to procure information as to the extent of the dilitation of the external os and telephone Dr. Yarros the findings. The information was obtained and a message was phoned to Dr. Yarros

that delivery would not occur for some time and that they would phone her again. In the mean time the patient went on with the ordinary house-work (?) when suddenly to the surprise of all concerned, there was a spontaneous delivery, and the child instead of being born in a manger, followed "Newton's Law of Gravity" and went to the floor. This demonstrates the fact that "accidents will occur in the best of families."

If the other classes contributed to the aid and support of the foot-ball team as generously as the senior class there willsurely be no unpaid debts hanging around. Never fail to say a good word for the P. & S. foot-ball team when the opportunity presents.

Election is over and many of the seniors had the good fortune of having been furnished transportation by their respective state or county to come home and cast their vote in the interest of the country. Among those who went were Bracken, Conway, Donkle, Kellogg, Koch, Lennon, McPherson, Rolfs, Sommers, Talmage and Jacobs. All returned with the expression of content and satisfaction radiating from their faces—with the exception of one—Mr. Diven was so mad and utterly disgusted "with himself or his party" that he could not look squarely into the faces of his classmates with that expression of content and all is well. Be courageous Diven, even in the face of defeat.

Mr. Fernow was nursing a tender spot last week and if you took particular notice you could see that he did not wear his overcoat but brought it along to sit on. It was exceedingly soft for he had a cushion sewed on the inside of one lapel. Further information might be obtained from Dr. Steele.

Even though a senior and presuming to enjoy the dignity thereunto attached. G. F. L. H. Bracken cannot easily depart from the technalities of dear farm life. Many of the more studious, not to say scientific members of the class are greatly disturbed over the fact that George came into class late upon a recent date and by way of framing an excuse, told those in the neighborhood of his seat that his tardiness was due to the fact that he was obliged to haul in a load of fodder for feed and then take the buggy down to the shop in order to get the tires set·

George has good farming ideas but should, for the sake of his companions, rake the hay seed from his premature whiskers.

JUNIOR NOTES.

W. R. Morris—President.
S. M. Kyes—Vice-President.
J. A. Beam—Treasurer.
L. B. Coates—Secretary.
G. L. Miller—Ilio Editor.
W. M. French—Class Editor.

So far as I am able to learn the Junior class has lost eight of its members of last year, viz: Agnew, Berger, Caldwell, Hamley, Hicks, E. M. Holmes, Powers and Miss Jennings.

Mr. Caldwell is now a Senior at Milwaukee Medical. Our friend from Kansas showed signs of greatness in his Freshman year and from his present progress it seems possible that Caldwell the Doctor will reach his native state in time to administer succor to the Populists as they return from Salt River.

Nov. 12th, E. J. Merki visited the class.

"It's better to have loved and lost and not to have lost at all."—Zohrlant.

Professor—What class of bursœ have we?

Mr. Gibbs—Simple, tuberculous and syphilitic.

"Jennie Mae" Holmes become very much excited after the nomination for marshall during our recent class election. For what cause, no one seems to know, however, Holmes conends it tis no office for ladies.

Henderson highly recommends Dr. Brown's Coryza tablets for colds.

G. L. Miller, our Ilio Editor, is to be congratulated on being able to grow a professional beard, however, he does not seem to be mindful of the effect of example and many sprouts have sprung up as the result of his success. Messrs. Wilson and Court are doing all they can to fasten their claims to professionalism but they seem to forget "that many are called but few are chosen."

SOPHOMORE NOTES.

The election of officers, held late in October, resulted as follows:

President—P. H. Holmes.
Vice-President—G. F. Blough.
Secretary—D. C. Dodds.
Treasurer—P. R. Urmston.
Class Editor—R. L. Eldredge.
Executive committee: C. E. Yates, chairman; E. B. Anderson, L. H. Fretchling, Leroy Sibley, R. C. King.

Some of the attempted ballot-box stuffing would have done credit to the seasoned campaigners of the First ward.

The newly elected class editor desires to express his appreciation of the honor conferred upon him by the class, and to thank those who so steadfastly supported his candidacy. It will be our endeavor to make this department in the official organ second to none of its character, and to this end we would ask the earnest co-operation of the entire class. No one individual can expect to know all that transpires concerning our crowd, and there are any items eligible to these columns we want 'em. Original contributions particularly are desired. It is not the intention to publish anything to which exceptions can be taken by any of the class, and if some references seem to be more or less pointed we trust they will not be resented as a personal matter. They are not offered in that spirit but merely to contribute our portion to the aggregate of humorous incidents, in the full realization that,

"A little nonsense now and then,
Is realized by the wisest men."

The visits of Superintendent Browne between lectures, which have been frequent and vigorous of late, have borne some fruit, and there is every reason to believe they will be still more prolific. Some of the class have been personally interviewed by him, but, of course, these interviews were not made public.

It is a regrettable fact that a minority element should bring upon the entire class the reproach and suspicion of the faculty and management. The reputation for destroying furniture and

interrupting lectures, in their own as well as other classes, which the sophomores have already established, is far from an enviable one. We cannot see how any good is to be derived from such a state of affairs, and there will certainly be serious trouble, either for the class as a body or for some of its individual members, unless an immediate improvement is noted. This would be an extremely unpleasant contingency for both faculty and class—particularly the latter. Those who are responsible for these exhibitions of rowdyism are in a small minority, and the management has made it very clear that the aggressive ones are well known to them, and that it is the intention to put a stop to some of the scenes enacted during the last month at whatever the cost necessary to accomplish the desired result and preserve discipline. None of us can afford to be made the victim of such drastic measures as suspension or expulsion when one considers the extent of its effect in the future. Aside from the odium attached to such an eventuality, there is the business end of the proposition to be kept in mind. No one can afford to pay for something he does not receive, and if the student pays for his tuition he is entitled to the worth of his money. Then, too, expulsion from the college means disbarment from all the institutions of recognized merit and good standing. The more conservative members have, from the first, expressed condemnation of these disturbances, and should work in harmony with the superintendent in his efforts to bring about better deportment. It is assumed that we are all here for one common purpose—a medical education. It is difficult to understand how the attainment of such knowledge can be enhanced by a total disregard of the primary principles of mannerisms, coupled with an evident desire on the part of some to see how far the horse play can be carried before a halt is called. If there are any whose object is merely to create a continual disturbance for what sordid pleasure they may thus obtain we could wish them nothing better than a bounteous outpouring of the superintendent's wrath,

The new suit of clothes met with approval.

Barnes is certainly an early bird. At least he caught the worm.

Shepard is not so sure that blushing isn't painful. Depends somewhat on circumstances.

We are always glad to hear Dr. Butler's poppy conundrum. Like certain beverages it improves with age.

It was not noticed that either of the Poormans fell over himself to recite when the professor called on the one who best knew the lesson,

Evidently the professor who addressed a few cutting remarks to the occupant of the rear row failed to notice the open book held by some of our lady friends throughout the hour.

Professor—Mr. Powers, were you ever frightened?

Powers—Yes sir.

Professor—What color were you, red or white?

Powers—Red.

Professor—Oh, no, Mr. Powers: that was the other time.

FRESHMAN NOTES.

A REWARD OF MERIT.

The father asked: "How have you done
In mastering ancient lore?"
"I did so well," replied the son,
"They gave me an encore;
The Faculty like me and hold me so dear,
They make me repeat my Freshman year."

—*Trinity Tablet.*

Jarvis has typhoid fever and has been compelled to miss the past three weeks of work. He is being attended in the Cook County Hospital. At present he is better. We extend our sympathy and hope for his speedy recovery, that he may soon be with us again.

Class meeting was called Oct. 23, in order to adopt a constitution for government. It was not largely attended, but never the less quite an interesting time was manifested in some of the proceedings.

G. J. Krupp, Sergeant of Arms, especially, commands attention for his bravery in facing the ladies and not permitting them to leave.

Class dues of twenty-five cents are due, and should be paid at once to the treasurer, Miss Hagans.

Wanted—Side whiskers or even a few stray hairs to help out, O'Neil. Any color, but black is preferable. He will change his own for those of better material.

What's the matter with Supt. Brown? We poor Freshmen might get hurt (?) if it wasn't for Supt. Brown and a few (?) others

Case and Young are forced to quit studying on account of trouble with their eyes.

Moore, Hattery, Schimmelfing, Hefflefinger and Miss Hagans were appointed by the president to act as an executive committee.

Archer is out of school on account of sickness.

C. M. Davidson has left the class.

LOCAL ITEMS.

Every man and his voice was at the mass meeting of the student body held in the C. A. in the afternoon of Thursday, Nov. 8th. The purpose of the meeting to awaken the enthusiasm for our game with Rush was well accomplished, for every one left the amphitheater with that "do or die" air which always foreshadows victory.

On entering the C. A. every person was presented by Huston Brothers, Surgical Instrument Makers, through their college agents Wiltfong and Noble, with a neat little folder upon which appeared the results of former games with Rush, the College Yell and two songs the one to the air of "A Hot Time," the other after "Marching Through Georgia."

After those convened had given the yells several times and had sung the songs, Dr. Everett, our coach, introduced the first speaker of the afternoon, Dr. King.

Dr. King spoke to some length on the future of the U. of I. in Chicago, the success that cannot but come to our school and the good of clean, wholesome athletics. Dr. King's sentiments were those of the student body as was clearly shown by the vigorous applause by which the sentiments were received.

Drs. Connell and Ferguson, new members in our faculty then followed with well chosen remarks, which were well received. Dr. Evans followed and was received with an outburst of applause which lasted several minutes. With a force of eloquence Dr. Evans spoke upon the duty of the college man to his school. After hearing Dr. Evans many a spirit which had lain dormant and latent for many years was awakened.

Dr. Wesener responded to a call for an address and told when it was in order to yell. If some of his suggestions would be carried out, it would undoubtedly be better for the rooter's team when that team is in a crises. Dr. Wesener was well received.

After singing the songs and giving the yells the meeting was disbanded. It had accomplished the end for which it was planned. It had awakened interest. It had shown a man his duty to his college and its athletics. It had aroused in every man a determination to yell upon the 16th of Nov. All had determined that Rush must be beaten.

Monday and Tuesday, Nov. 5th and 6th, were "slow" days about college. Every other man had gone home to vote.

A number of "our" Pharmacy boys, from the South side, attended the P. & S.–Rush foot ball game, and their yells were well received and helped materially in the victory we won. Come again boys.

ATHLETIC ITEMS OR WHO BURIED RUSH.

Hulla Balloo! Rah! Rah!
Hulla Balloo! Rah! Rah!
Hoo Rah! Hoo Rah!
P. & S. Rah, Hoo Rah.

P. & S. 12 RUSH O.

Hurrah foa our foot ball team. To retain the championship of the western medical colleges for four consecutive years is a great record, a grand title and honor that we are happy and proud to own. Our team is not inferior to any in the west; what would and could our boys do after having received a few finish-touches, with a few weeks training. The story is told plainly when we realize they played Nortnwestern, Wisconsin and Illinois to a stand still and in each instance knowing but a few hours before the contest that a game was to be played.

As an evidence of good faith and to let the boys know we like their style of playing, 400 P. & S. students shouted and yelled on Gaelic grounds, Nov. 16th, while eleven of our hustling colleagues took the measure of our opponents from Rush. 12 to *Nit* was best we could do, but give the team that wants to do better on an icy field, lots of room, they would surely need it; perhaps by using skates or ice-boats the next best team in the universe might possibly run up a scare of eleven (11), but with such inventions P. & S. would keep too busy making scores to answer roll call and the number could not all be counted on Prof. Eckley's black board up in A. A.

It is doubtful whether Mr. Coxey and his army were a bit more happy when they entered Washington, than was our eleven, to see with them so many faithful rooters, all ready to give a glad hand and an encouraging hurrah.

The day was not peachy, foot ball weather, from a spectator's view, and many of them said so; it was evident after the first few scrimmages, and following the digging in (Terra Firma) a ditch with a fellow's supersiliary ridge and bumper bone that

a gladiator or so could agree peacefully with the casual spectator, Old Sol tried several bucks, end plays, masses on tackle, in fact every thing known in planet town to pierce the cold gray cloud of railroad atmosphere which gloomed all beneath, an abundant amount of snow and ice covered the field and the seats of the grand stand as well. The temperature was decidedly subnormal just as the mercury had almost reached the very farthest point of exit in the proximal end of the tube. A very torrid bunch of foot ball players passed the gate keeper, much enthusiasm immediately caught the crowd while the players hurried to the gridiron, several new plays which, by the way, were never put into action by any team before were tersely rehearsed, within a few minutes P. & S. was ready for action. The opponents entered, having many (?) people walking slowly behind them, to the observer one of those long black processions was its anomaly in appearance. (The diagnosis was verified just after the the second half). Rush chose the wind to their backs defending the south goal. The players of both teams were evenly distributed over the field and the signal to play was given. Willie Major lifted one foot of his understanding against the pork skin, the ball landed on Rushes 25 yard line; Schroeder advanced the ball 10 yards after two downs, Tobin punted to P. & S. 45 yard line, John Turner caught it and wiggled through Rush for a gain of 25 yards, P. & S. fumbled after 2 downs; Shroeder got the ball and advanced 20 yards, Tobin tried a place kick but failed. Our ex-captain punted for a 55 yard gain, Rush returned it 5 yards by successive line bucks. At this stage of the game the time keepers thought some one said "pinch him," were upon they blew the whistle after 15 minutes of actual play. An intermission of a few minutes was enjoyed during which P. & S. retired to quietness where a jolly up-party was held, the reason for which being the score 0 to 0. Gopher Parry lead the meeting as Joe Dean was end man he thought it a good place to begin. Badger Dean was asked to remove the glue from the bottom of his kicks to enable him to get a quicker start. Joe said perhaps Dowdall thought he was on a ranch and chased them all Joe's way, he was sure he had worked over time; Cory thought you might as well try to catch small pox where there

"aint" any as to try and stop Bothne. Tiger John Turner wanted to know if Pickett thought he was chasing cocoanuts in Africa; Wolvinere Dick Lockwood gave an imitation of how he would make a touch down if P. & S. needed it. Badger P Donkle said you was just as liable to catch a frog on a hook without red flannel as Dick was to make a touch down; Major said you would do just as well making a race horse out of a donkey as to try Shillo for an end run;peaceful Valley Captain Bothne called time and the teams lined up for the second half. Rush kicked to P. & S. 25 yard line; Turner advanced the pig skin 20 yards. Two downs were made and Tobin tried a punt which was cleverly blocked and carried by Bothne to Rush's 30 yard line; after a scrimmage, Rush got the ball. P. & S. made a desperate effort to score by holding the opponents and regaining the ball. Pickett after running around the end for 20 yards with the assistance of 2 downs, placed the ball over for a touch down after 11 minutes of play; Major kicked to the center of the goal when Bothne caught the ball then Major kicked goal. Score 6 to 0. Rush punted to 35 yard line, Turner punted to opponents 50 yard line, Tobin returned the ball, Rush losing 5 yards. Pickett and Turner with great interference by all the team made long gains and Turner was shoved over for another touch down, Major kicked goal score 12 to 0.

P. & S.		Rush.
Dean	L. E.	Pence.
Lockwood	L. T.	Howell.
Major	L. G.	Gardner.
Cory	C.	Crawford.
Parry	R. G.	Gould.
Shillo	R. T.	Pearson.
Dowdall	R. E.	Schroeder.
Donkle	Q.	Eignus. (Olson)
Pickett	L. H. B.	Lamping.
Bothne	T. B.	Schroeder.
Turner	R. H. B.	Tobin.

Referee Hayner, Umpire Thompson, time of halves 20 minunes; touch downs P. & S. (2) goals; Major (2); timekeepers

Sawtelle P. & S., Lathrop R. M. Linesmen, Donkle P. &. S., W. Murray Rush.

P. & S. Society at the Game.

Professors Steele, O'Byrne, Ferguson, Davison, Goodkind, Earle, Patton.

Drs. Connell, Stotz, Blayney, Phillips, Betts, Tieken, Mackenzie, Lemke, Shepard, Monahan, Xelowski, Potter, Miller, Lind, Senator Clunan.

Mr. Verry, Dynes, Brawley, Conrad, Cory.

Mrs. O'Byrne, Goodkind, Everett, Cory.

Miss Heelan, Benham, Davis, Shostedt, Kightlinger, Beattie, Pomeroy, Nobles, Hodges, Seidel.

Automobile { Dr. Ferguson. / Dr. Johnson.

Automobile { Dr. Shepard. / Miss Heelan.

Tallaho { Alpha Kappa Kappa fraternity. / Juniors. / Sophomores.

Notes of the Game.

We regret that Mr. Eignus, of the Rush eleven, was injured and wish him a speedy recovery.

Prof. Steele rooted hard and strong, the policeman thought a little too much, but we didn't.

Thanks to referee Hayner and umpire Thompson, their work was the best.

Where is Mack and Flippin was a frequent inquiry.

During a heated discussion on the gridiron, one of the Rush men held Cory when he thought he should be working. In order to break loose Cory found it necessary to hand his antagonist one in the solar. Referee Hayner immediately turned to umpire Thompson and asked him if he saw that, the umpire said "no, but I heard it."

Bill Severson, "and they are there with the goods."

Chicago College of Pharmacy students had a short catchy yell which they often used to good advantage.

To particularize, the individual playing of our team would lead to praise of each man. However, it is only fair to say the hole

making of Major and Parry, the fierce playing of our tackles, the aggressive work of our backs, the brilliant runs and tackles of our ends, and the terrific rate at which Cory held center will live long with many followers of the P. & S. team as playing seldom equalled.

Donkle played well at Quarter, being handicapped with a broken nose which was received in practice a few days before.

Many loyal Seniors, Juniors, Sophomores and Freshman saw the game, but we need more Freshmen—come out boys, get into the hustling, busy, active athletic interests of the college.

Mr. O. W. Dynes, the well known lawyer, who at one time played end for Cornell, was a good rooter for P. & S., said P. & S. had an excellent team.

Mark Twain witnessed the Yale–Princeton game, and said he thought foot ball the best game ever invented for man. Mr. Clemons being so well pleased with the sport announces that he will attend the contest between Yale–Harvard game, on Saturday.

TYPHLITIS: EXTREME CASE, BLOOD CURED.

By T. J. Biggs, M. D., Stamford Conn.

Harry S., age 30, American; admitted June 2nd, 1900.

Diagnosis: typhlitis. The patient had been suffering for a week prior to entering the hospital. It appeared that his condition began with pain and tenderness in the right iliac fossa and along the ascending colon. An examination at the time of his entering the hospital revealed a slight prominence in this region. At first the bowels had been constipated, but now small liquid stools occurred every two or three hours. This was due to accumulation of the hardened fæces in the sacculated periphery of the oæcum. He had suffered with much local pain and tenderness. Temperature was 103½, he was very restless and had occasional attacks of vomiting, and almost constant nausea. The vomited matter at first contained the contents of the stomach, but in 24 hours the contents of the duodenum, contained a great deal of bilious matter. He was suffering from great depression of the vital powers. Peritonitis had developed on the right side.

The patient was put to bed, placed on a strict bovinine diet,

a tablespoonful in milk being given every two hours. He was also given a thorough rectal purge, followed by small doses of morphine to control the pain.

For the first 24 hours he retained the bovinine nicely, but on the afternoon of the 3rd he vomited everything, even water. The quantity of the bovinine was now reduced to twenty drops in a little iced grape juice every hour. The bowels were cleaned out, first by injecting a pint of olive oil, then later a soap suds and glycerine enema. This was followed by a large evacuation.

On the 5th, the patient could not retain anything by stomach, so it was decided to feed him per rectum. Consequently he was given three times a day a high rectal feeding, consisting of four ounces of bovinine, four ounces of milk, and an ounce of lime water. These were retained and the patient began to show improvement.

On the 10th, the pain and tenderness in the right iliac fossa had almost subsided; the fever had dropped down to 100–⅕, bowels were moving normally. The bovinine was now resumed per stomach, half a teaspoonful every hour in lime water, and the rectal feedings employed twice in twenty-four hours.

On the 16th, the temperature was normal, pain and tenderness over the right iliac fossa had entirely disappeared, patient not nervous, and the stomach retained the bovinine feedings without any inconvenience. The alimentation was now discontinued, and bovinine ordered, a tablespoonful every two hours in a little peptonized milk and lime water.

On the 20th, the patient was up and about, complained of no pain, bowels regular, all soreness and swelling had disappeared from the abdomen, and his strength was excellent. The bovinine was now ordered a wine glassful every three hours in peptonized milk.

On the 26th, he was allowed a light general diet, and the bovinine was given three times a day. On the 28th, he was discharged, cured.

This case, prior to coming into the hospital, had been under treatment by two competent surgeons and they both advised immediate operation. Consequently I deem this to be a remarkable case and one of much clinical interest to the profession at large.

THE MARION-SIMS HOSPITAL.

438 LaSalle Avenue,

CHICAGO.

A high-class private Hospital for the reception of Gynecological cases and for abdominal Surgery.

Centrally located in one of the best residence districts of the city, this institution offers accommdations which are superior in every respect and combine the comforts and luxuries of the home with the strict appointments of modern sanitary science.

The apartments are light and well ventilated, heated by an improved hot water system. Hardwood floors throughout; furniseings elegant and appropriate. Trained nurses of superior skill are in charge of the patients and the diet is the best.

The operating rooms are specially fitted with all modern appliances for aseptic surgery.

A competent physician is in attendance at all hours.

CHANNING W. BARRETT, M. D., House Physician

F. GREGORY CONNELL, M. D., House Physician an Pathologist.

For further information address

HENRY P. NEWMAN. A. M , M. D,

Surgeon in Charge.

103 STATE STREET, CHICAGO.

Long Distance Telephone 737 North.

Five-grain
Antikamnia Tablets—
The only scientific analgesic,
The only safe antipyretic!
No habit— no cardiac depression
Made solely by
The Antikamnia Chemical
Company
St. Louis, U. S. A.

CHANNING W. BARRETT, M. D,

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. DECEMBER 20th, 1900. NO. 8.

THE TREATMENT OF RETROVERSIO-FLEXIONS.

By Channing W. Barrett, M. D.

Professor Gynæcology, Chicago Clinical School, Assistant Professor Clinical Gynæcology, College Physicians and Surgeons (Medical Dept. University Illinois).

Attending Gynæcologist, West Side Free Dispensary.

What shall we do with retroversio-flexions? What shall we not do? Much has been and is being written upon the subject and upon no subject is there a wider variance of opinion. There are very definite principles which should govern one in dealing with retro displacements, which fact is too often lost sight of. There is too much ready adopting, praising, rejecting, condemning in a haphazzard way, and too little search made for the real indications for the application of the methods now at our command to impress the student of the scientific basis of the treatment of these disorders. The tampon is condemned, but it helps some cases; the pessary has received much abuse, but is still useful when indicated. Shortening of the round ligaments received a severe set back but is growing in favor. Vaginal fixations had their epidemic but are now under proper control. Ventro suspensions have thriven, have done harm, have been and should be checked, and yet have their place in surgery.

Before proceeding to the indications for treatment, it will

not be out of place to call to mind briefly some important points of the anatomy and location of the uterus; and also some facts regarding the etiology and mechanism of retroversio-flexions.

We should remember that the uterus lies in the pelvis nearly in a horizontal position, varying somewhat with the amount of urine in the bladder; the cervix pointing backward is held within one inch of the sacrum, which lies in an oblique position and forms somewhat the roof of the pelvis, as well as the posterior wall. The uterus is swung in the pelvis with ligaments, cellular tissue, blood vessels, nerves, etc., so as to allow of considerable motion, the broad ligaments support it from the side, the round ligaments attached to the upper angles anteriorly serve to maintain the forward position of the body of the uterus under normal conditions. The sacro-uterine ligaments—*retractores*—attached to the lower part of the uterus and running to the sacrum serve to hold the cervix upward and backward near the hollow of the sacrum. These supports are aided by support given from below—the fascia and muscles of the pelvic floor.

Retroversio-flexions are favored by anything which weakens these supports or increases the weight to be carried, or anything that produces traction. For instance, in subinvolution, we have a heavy uterus to be carried and therefore the ligaments are stretched. Not only are they stretched, but subinvolution of the ligaments and pelvic tissues accompanies subinvolution of the uterus, so that the supports are already weakened. A large infected, hypertrophied cervix drags upon the sacro-uterine ligaments as does also a tumor of the cervix. A tear in the pelvic floor allows backwaad displacement of the remaining perineal tissues, leaving a gap to be filled by the vaginal walls. Sagging into this space, forming what is known as a cystocele and rectocele, the vaginal walls make downward and forward traction upon the cervix and therefore upon the sacro-uterine ligaments. These are only a part of the many causes of retrodisplacement, but whatever the etiology, the stretching of the ligaments and downward and forward displacement of the cervix are constant factors in succeeding displacement. The fundus would not go backward were the round ligaments doing their work well, but should it do so, the fundus would strike the

promontory, if the sacro-uterine ligaments were doing their work.

For the demonstration of this—the mechanism of retro-displacements—to students, the writer has a false uterus swung by elastics in a mounted female pelvis with the broad, round and sacro-uterine ligaments represented.

Now, having in mind the normal location of the uterus and its supports, and sufficient of the etiology of retroversio-flexions to demonstrate the mechanism of the same, let us consider the different phases of the treatment.

As interesting as is the cure of retroversio-flexion, yet are these conditions so troublesome to the patient and to the physician that a careful study of the prophylaxis is worthy of considerable space in an article devoted to their treatment.

An over-full bladder and rectum should be avoided, as a full bladder pushes the fundus backward and a full rectum pushes the cervix forward. Especially does this apply in cases after confinement and abortion. Dragging tumors and heavy ovaries should be given attention. Inflammatory troubles should receive proper treatment. A proper position of the uterus should be maintained during and after the puerperam. Tears of the floor, which allow of any lack of support, should be repaired. A heavy cervix should receive treatment; amputation if necessary. Subinvolution should be overcome as quickly as possible. Anything tending to increase intra-abdominal pressure, such as a cough, a constipation or a corset or heavy lifting should be overcome or avoided. These prophylactic measures also become curative measures in treating an already retroverted uterus.

Acute retroversion is sometimes caused by a sudden fall or heavy strain. The ligaments are suddenly put on the stretch to such an extent that the fundus is allowed to go under the promontory and perhaps between the sacro-uterine ligaments. These latter ligaments having been stretched, now contract and hold the fundus in this position. To relieve this condition, place the patient in the genu-pectoral or Sim's position, retract the perineum, draw down the cervix with a tenaculum or forceps to again stretch the sacro-uterine ligaments, and with a ball of cotton on a pair of dressing forceps, push upwards upon the undus in the cul de sac of Douglas. Or, with the cervix drawn

down as directed, upward pressure may be made with the finger in the rectum. If this condition has existed only for a short time, no further treatment than replacement will be needed. If the ligaments have been held in this over-stretched condition too long, tampons, rest, and pessaries may be needed.

This same procedure may be carried out to replace a retro versio-flexion of long standing if bimanual manipulations fail. An anæsthetic may also be required in either case.

Retroversio-flexions immediately following child birth should receive very prompt attention. Every case should be examined two or three weeks after confinement. Many women get up with a large heavy uteri, with congested pelvic tissues, long, lax ligaments; perchance tears have occurred and slight infections have taken place, enough to retard involution. Perhaps the bowels and bladder were not kept sufficiently empty. A little care now will do more than weeks of treatment a few months hence. Hot douches, tampons placed with the patient in the knee-chest position, a well fitting pessary worn for a time may be expected to accomplish much. A patient known to have retroversio-flexion, which has either not been treated or which has resisted treatment, should now, while these tissues are undergoing natural involution, receive very careful attention as to the above details, and a cure may be effected.

The indications for a pessary are very definite and if followed the pessary does not do harm and many times does good service and should not be discarded. To be used beneficially, we must have,

1. A fair pelvic floor.
2. A uterus which is freely movable—no adhesions.
3. Absence of inflammatory conditions in the pelvis.

Given these conditions, and good may be expected in an inverse proportion to the time displacement has continued or the time since child birth.

Some patients cannot or will not, by reason of occupation, environment or temperament continue the treatment long enough to make the pessary applicable to their case. Sometimes the pessary fails to cure, even though a thorough trial is given it.

Tampons are useful to reduce the size of the uterus, absorb-

inflammatory products, to hold the uterus in position preparatory to the wearing of a pessary, or, in cases that cannot wear a pessary, and preparatory to operative measures, and as palliative treatment when operative measures are indicated but refused.

Does an uncomplicated case of retro-displacement require any attention? Yes. For there is a strong tendency for it to become complicated. Its position favors congestion and therefore inflammation—endometritis, myometritis, oöpheritis, etc. Backward displacement of the uterus is accompanied by downward displacement of the ovaries and they do not remain in the cul de sac of Douglas pressed upon by the uterus for any considerable length of time free from disease. The retro-displaced fundus interferes with the functions of the bowel, sometimes as a valve being driven down against the bowel with each effort at stool.

What cases call for operation? All cases, complicated or uncomplicated, which have resisted the above measures, unless a positive contra-indication exists. Cases which have passed the menapause and give little trouble might be considered an exception to this rule. The operation of choice will or should depend upon the conditions present, and not, as is so often the case, upon the fancy of the operator. Different methods for different conditions are scientific. Many different operations for the same condition or one operation for many conditions indicates some how and some were a lack of scientific differentation.

We must remember that the first step in a retroversio-flexion is a downward displacement—a disproportion between the weight of the uterus and the carrying power of its supports. The operation called for then, may be a curettage to rid the uterus of a diseased endometrium, thereby hastening involution, or it may be this plus an amputation of a large hypertrophied cervix, thereby lessening the weight to be carried and aiding involution. Or, in addition to this, a repair of the torn pelvic floor may be called for, thereby aiding the carrying power of the supports and taking off the drag that the vagina has been to the uterus.

These alone, or followed by tampons or a pessary, may be all that is needed in some cases, but other cases will be me

which will call for other operations with or without the previous operations, according to the conditions of endometrium, cervix and floor. Many operations have been devised for directing the fundus forward and holding it there. None, perhaps, is more thoroughly bad for this than operations through the anterior vaginal vault, of which we shall speak later; and none, perhaps, is so good as the Alquie-Alexander Adams' operation—shortening of the round ligaments outside of the abdomen—when the indications allow of its application. These indications must not be lost sight of. They are:

1. A freely movable uterus—no adhesions.
2. A healthy condition of the tubes and ovaries.
3. No complicating tumor of the uterus.
4. A good pelvic floor.

Curettage should precede the operation. Tracheloplasty should be done if the cervix is torn, hypertrophied or diseased. If the case does not meet the fourth indication, a perineorrhaphy should be done. If adhesions are present, massage, as recommended by Brandt, with douches, tampons, etc., may prepare the case for this operation, or for the pessary; for it will be seen that the indications are much the same for the two procedures. Unfortunately, this method of dealing with the adhesions is a tedious one. Schultze has recommended the forcible breaking up of these adhesions with a sound or with the finger in the uterus through a previously dilated cervix. This however, must be regarded as not without danger and hardly justifiable. In order to take advantage of this most excellent operation it has also been recommended that an opening be made in the posterior cul de sac and the uterus freed from its adhesions. This would seem to be a more rational procedure and does not add greatly to the severity of the operation. The claim made for the Alexander operation, that it was entirely outside of the peritoneal cavity, does not appeal as strongly as in the pre-aseptic days of its birth.

This preparation of cases for the Alexander operation widens its field somewhat, for it will be seen that only a few of the least troublesome cases absolutely meet the important indications mentioned.

In the days when the Alexander operation had fallen into dis-

repute, due to its having been performed on cases not presenting the indications, another operation was proposed for this class of cases. This operation—anterior hysteropexy without opening the peritoneal cavity—needs mention only to be condemned as being too uncertain and dangerous to be put into practice.

When should the round ligament operation be chosen instead of a pessary.

1. When a case has not been cured by the use of pessary.
2. When a more speedy result is necessary than can be obtained with the use of a pessary.
3. Usually when other operative work is demanded as auxilliary.

So far we have been considering those cases in which there are no complications requiring operative work in the abdomen more than the breaking up of the moderate adhesions. In these cases, then, reposition is necessary. Massage is sometimes useful. Electricity may be tried. Tampons hold the uterus temporarily and relieve congestion. Pessaries help to cure some cases. Shortening the round ligaments is a most valuable operation. Work on the pelvic floor, endometrium and cervix is sometimes called for.

As useful as are the foregoing procedures in cases which meet their indications, we have left a large percentage of troublesome cases of retroversio-flexions in which the complications demand actual operating in the pelvic cavity. A fibroid of the uterus, a cystic ovary, the same prolapsed, a pyo- or hydro-salpinx, a diseased appendix, an adhesion to a bowel, are a few of the pathological conditions to be attended to at the same time that an operation is done to overcome the displacement.

What shall be done in this large class of cases? We must take into consideration the individual case, the work to be done for the complication, the route to be chosen and the operation to be done for the retroversio-flexion. A large fleshy woman, for instance, might be dealt with differently than a thin woman; a woman past the menapause differently than a young woman in whom pregnancy might be expected.

Three routes are chosen for this work.

1. *The median incision.* This gives free access to any and

all pathological processes in the pelvis, allows of the separating of all adhesions under the eye, and a thorough inspection of all work. This is the ideal operation as far as dealing with complications is concerned, and should be chosen in all cases of doubtful pathology; in all cases of known or suspected inflammatory troubles, involving tubes, ovaries or appendix.

2. *The dilated inguinal rings.* This operation recommended by Goldspohn in order that the operator might follow up the round ligaments thereby making use of them to correct the displacement after dealing with the pathology through these dilated rings. It is ideal in that it makes use of the round ligaments for normal supports of the uterus, but it is only serviceable in minor pathological conditions. Septic processes cannot well be attended to. Free inspection cannot be carried out. Notwithstanding these limitations and the disadvantage of two openings in the peritoneal cavity, the operation has merit and is to be looked upon as a valuable addition to gynæcological surgery.

3rd. *Vaginal Coeliotomy.* This is inferior to the inguinal coeliotomy as to reaching the pathology, and inferior to the median incision as to the methods allowed for holding the uterus forward. Inferior, then, to the less satisfactory feature of each. Greater danger of injuring the bladder is encountered—it has been entered not a few times. Separation of the bladder from the uterus interferes with the circulation of the bladder, resulting oftentimes in a troublesome non septic catarrh af the same. Hemorrhage cannot be so well controlled. There is greater danger of encountering the uterer; also greater danger of tearing other important structures, with less opportunity afforded for repair. The ovaries, if brought to the field of operation. suffer from the overstretching of the ligaments. The appendix cannot be dealt with, as is so frequently necessary in inflammatory complications of retroversio-flexions. No matter how much pathology we remove, we cannot say how much is left. (It will be understood that vaginal hysterectomy is not under discussion.)

Logically, vaginal coeliotomy cannot compete with the two previously mentioned routes in the treatment of retroversio-flexions and their complications. A vaginal operation might be chosen in the rare case of a woman with an enormously large,

fat abdomen; but the operation of choice would perhaps be here a total extirpation.

From the merits of the first two routes mentioned, we choose for cases of minor pathology—moderate adhesions, cystic ovaries and prolapsed ovaries—the inguinal cœliotomy or the median incision. The advantage of the median cœliotomy as to facility of reaching the pathology is counterbalanced by the better method of shortening the ligaments in the ingninal coœliotomy.

In all extensive complications—pus tubes, fibroids suspected inflammatory appendix, extensive adhesions—the weight of evidence is in favor of the median incision.

The median incision being chosen, what operation is to be performed to hold the uterus in place?

In those cases in which a succeding pregnancy can be excluded, it is an easy matter. Shortening of the round ligaments from the inside, transplantation of the same, or ventro suspension may be done—the latter if there has been much prolapse. But in those cases in which the patients have been left fruitful, an operation must stand what Goldspohn calls "*the double test of pregnancy.*" That is, the operation must not interfere with the growth of the uterus nor with parturition, and the growth of the uterus must not interfere with the success of the operation.

In the light of this, if the operator chooses ventro-suspensio-fixations, he is certainly "Between the Devil and the Deep Sea." He performs fixation and to ease his conscience, calls it "suspension." Or, he performs suspension, and to ease his conscience hopes it will stay "fixed." He would not, if called npon to operate upon a pregnant woman, attach the uterus to the abdominal wall; yet, without hesitation, he attaches a uterus that may become pregnant two months thereafter. He leaves an ovary or a portion of one or both ovaries in the hope that the uterus will functionate, and then attaches it, in the hope that it will not. He puts sutures deep in the uterus, attaching it firmly, and uses cat gut that it may be temporary. More and more do we reach the conclusion that this operation should not be done in cases which may become pregnant.

Edebohls, considering the advantages of median incision,

and the external shortening of the round ligamnets, uses the first for doing the necessary work in the abdomen and then makes the inguinal incisions for picking up the round ligaments. This multiplies work too much for the operator of moderate dexterity. W. Gill Wylie proposes and practices a shortening of the round ligaments within the abdomen by looping the ligaments and sewing them in that position. Many different methods of shortening the ligaments intra-abdominally have been proposed. Some take out a portion of the ligament. Unless firm union is secured between the looped portions there is danger of the loop becoming obliterated by a succeeding pregnancy.

A. H. Ferguson has devised a method of transplantation which although serviceable, has the disadvantage of two openings into the peritoneal cavity, although but one in the skin. This operation consists in cutting down to the strong aponeurosis—that is, through the skin and fat—in the median line. Then retracting these tissues to one side, a vertical incision is made through the outer edge of the rectus muscle into the abdominal cavity. Necessary work is done on the tube and ovary of that side, the round ligament is caught up, tied on the inguinal side of the forceps, cut between the ligature and the forceps and the tied end then dropped into the abdomen. The free end of the uterine portion of the round ligament is then brought through this opening and fastened. This procedure is repeated upon the opposite side and the two lateral incisions closed and the operation completed by closure of the median incision.

To overcome the objection of the two incisions and in order to have the advantage of the median incision for operation, the writer prefers the following method of transplantation of the round ligament: The abdomen is opened in the median line in the usual way. Necessary work being done, the round ligament of one side is caught about midway between the uterus and the inguinal ring. A longitudinal slit is made in the peritoneum over the ligament for about three-fourths of an inch through which opening the ligament is drawn enough to make a raw surface to be used in the transplantation. One and one-fourth to one and one-half inches external to the lower angle of the abdominal wound a puncture is made through fascia, edge of the rectus

muscle and peritoneum. A forcep is passed through this opening from without inward. The loop of the roud ligament is caught and drawn through the small opening and fastened with cat gut. This procedure is repeated on the opposite side and the abdomen closed as is desired.

These operations of transplantation and shortening of the round ligaments within the abdomen do away with the necessity of attachment of the uterus direct to the abdominal wall in any case of possible pregnancy, and furnish a support which maintains the fundus in the anterior position—a support which undergoes evolution during pregnancy and involution thereafter, which the false ligaments of ventro suspension do not do.

If we remember the functions of the sacro-uterine ligaments and the lengthening process which they undergo during retroversion, it would seem that shortening of these ligaments would be a very direct and rational procedure, and this has been done, but not extensively, due to the fact, no doubt, that they lie in a position not easy of access.

Retro displacements during pregnancy may or may not differ in their indications from the same condition at other times. Acute retro displacements may occur in the early months of pregnancy. The treatment is the same as for acute displacements occurring at any other time. A previously troublesome retroversio-flexion may cease to give trouble soon after the advent of pregnancy, the growth carrying the uterus out of the pelvis, loosening slight adhesions if present. But many cases are seen in which the fundus is held in the cul de sac of Douglas by adhesions, or by becoming locked between the sacro-uterine ligaments, or under the promontory, causing severe symptoms and abortion if not relieved. Bimanual replacement should be tried. This failing, the method advised for the reduction of acute retro displacement may be tried. This too failing, an anæsthetic should be given. The adhesions may be so great that these efforts will result in failure. Operative measures could now be employed with a reasonable hope of success as regards the life of a mother, the life of the ovum and as regards the durability of the operation. The choice of an operation when adhesions only are present would be preliminary breaking up of the adhesions through the posterior cul de sac, and

then the Alexander operation. Should, however, complications exist which threaten the life of the fœtus and which demand an abdominal operation, no hesitancy should be felt in opening the abdomen, removing an ovarian tumor or fibroid or pus tube, and then shortening the round ligaments within the abdomen, as illustrated by a case in the hands of the writer, in which a sharply retroflexed uterus, two and one-half months pregnant threatened to empty itself. An ovarian cyst was found, which ruptured upon manipulation to replace the uterus. The abdomen was opened, a multilocular cyst removed, the abdomen sponged, adhesions were broken up, and the round ligaments were shortened about three and one-half inches, within the abdomen. Abortion was feared, but instead the rythmic pains ceased and the case is now approaching full term. A further detailed account of this case will be given under a different heading.

It is needless to say that an uncomplicated case of retroversio-flexion during pregnancy should be allowed to take care of itself, or, if giving trouble, conservative measures should be used to carry it aloug until it rises out of the pelvis, withholding operative measures unless positively demanned. The carefulness with which we would avoid a ventro-suspension in these pregnant cases demanding operation is a fair guide as to what should not be done in cases which may at any time become pregnant.

Deductions:

1. More care should be exercised in the after treatment of confinement cases to bring about a proper involution of the uterus and its ligaments.

2. Early restoration of a retroverted or —flexed uterus should take place when possible, and the uterus should then be held in position by means of posture, tampons, pessaries, or, if necessary, an operation.

3. Complicating conditions should at the same time receive treatment—applications of iodine, massage, ichthyol-glycerine tampons. electricity, operation.

4. Cases without intra-abdominal complications, which are not cured by posture, tampons and pessaries, should have the benefit of the Alexander operation with whatever accessory operative work is necessary upon the uterus or pelvic floor.

5. No operative procedure should be chosen which requires the abdomen to be opened unless other intra-abdominal pathology demands it.

6. Cases of minor pelvic pathology should be prebared for the Alexander operation if possible.

7. The fundus should not be attached to the opdominal wall or vagina in cases which may become pregnant, as there are other operations less harmful.

8. The median incision should be chosen in inflammatory complications of tubes and ovaries, extensive adhesions, fibroids of the uterus, inflamed appendix or, in cases in which these complications cannot be excluded.

9. The vaginal route and vaginal operations for retroversio-flexions and their complications in the abdomen should be avoid-ey, unless very positive indications are present for this choice of route and operation.

10. While an operation should be avoided during pregnancy, if possible, yet, if complicating conditions demand it, it may be done with a reasonable hope of success.

100 State Street, Chicago, Illinois.

INDICATIONS FOR TRACHEOTOMY.

AIME P. HEINECK, M. D.

Tracheotomy is indicated:

1. In laryngeal stenosis provocative of great dyspnea. The laryngeal stenosis may be of an inflammatory neoplastic or neuropathic nature. May be due to factors within the larynx; may be due to factors external to the larynx. In diphtheritic stenosis, with tracheotomy, as with intubation, success lies in early operation. By this is meant early, with reference to respiratory difficulty.

(a). When intubation fails to give relief. If, after several unsuccessful attempts at intubation, the necessity for operative relief still exists, perform tracheotomy before the child becomes exhausted.

(b). When, owing to the great iritability of the larynx, the introduction of an intubation tube is constantly followed by its ejection.

(c). When the constriction causing the stenosis is not limited to the larynx, but also involves the trachea. When the obstruction to breathing is believed to extend beyond the lower end of the intubation tube.

(d). When in a case otherwise suitable for intubation, patient offers insurmountable resistance to the introduction of the mouth gag, trachetomy will have to be performed.

(e). When intubation is impracticable, as in the absence of a trained intubator, or when laryngeal deformities make tracheotomy the only available operation.

(f). When, from very severe laryngeal spasm or other reasons, the tube cannot be put into place. "Laryngeal spasm may be such that the intubation cannot be introduced between the vocal cords."—Robert Lyons. "Glottic spasm may occur sufficiently severe and protracted as to prevent entrance of the tube in larynx and require tracheotomy."—Kyle.

(g). When the tonsils are so large (as when they almost meet) that they prevent the necessary manipulations for intubation.

(h). When, in diphtheria, the fauces are full of putrid debris and the epiglottis is immovable, owing to the destructive action of the disease. Cases of laryngeal diphtheria, in which there is much swelling of the tonsils and in which the fauces are covered with heavy deposits of false membrane, constitute unfavorable cases for intubation. In laryngeal diphtheria, associated with faucial membranous deposits, there is danger that exfoliating membrane from the pharyngeal walls may, by falling or by being aspirated into the tube, occlude it and cause instant death. Unless the child can be closely watched, by a trained attendant, competent to immediately extubate in the presence of danger, it is much safer in these cases to perform tracheotomy.

(i). Any condition which prevents wide distention of the jaws, as, for instance, chronic spasm of the masseters, would, in the presence of laryngeal dyspnea, call for tracheotomy. The jaw is frequently set in conjunction with peritonsillar abscess, phlegmonous pharyngitis, Ludvig's angina, etc.

(j). In laryngeal diphtheria or in membranous laryngitis, if the successful introduction of the intubation tube is not followed by relief of the dyspnea, it is probable that the interference with breathing is due to the existence of membrane in the lower part of the trachea or in the bronchi. Though in the presence of this condition, it is probable that tracheotomy will not secure respiratory relief; nevertheless, it should be tried.

2. In the treatment of accidents that can occur during the insertion or during the wearing of an intubation tube, as:

(a). When shreds of membrane are pushed down before the tube and cannot be expelled, occluding the trachea beyond any hope of relief the performance of tracheotomy is imperative.

(b). When the intubation tube has been made to enter the ventricle of the larynx; thus making a false passage.

(c). When the intubation tube has passed below the true vocal cords. (This accident will not occur if a properly sized and properly shaped tube has been selected). After tracheotomy the tube can either be pushed back through the glottis and removed through mouth, or it may be removed through the tracheal opening.

(d). When, with tube in position, sufficient nourishment of the patient is not possible. (Uncommon indication).

(e). When there is continued irritation of the bronchi from the continued aspiration of food.

The two last preceding indications are given by the authors. I, however, have not yet encountered them in my practice.

(f). Sudden and complete occlusion of the intubation tube by shreds of false membrane or by mucus, if removal of the tube is not followed by immediate relief.

(g). In perforation of the laryngeal cartilages occurring during attempts at introduction of tube. (This accident is rare).

3. In tracheal stenosis. Tracheal stenosis may be due to a primary affection of the trachea, as an endo-tracheal tumor, may be due to irritation incident to the wearing of a tracheal cannula or an intubation tube, or to pressure exerted upon the trachea from without, as compression of the trachea by a cervical neoplasm.

4. In edema of the glottis that is not relieved by scarcification, or other simple measures. In these cases, intubation of the larynx is of little service. In edema of the larynx, especially when the process is due to factors that tend to excite dropsical effusions, such as Bright's disease, heart disease, angio-neurotic processes, etc., the orifice of the intubation tube is very apt to be overlapped by the surrounding edematous tissues. Its ability to relieve dyspnea is thereby nullified. "Edema of the larynx, the great majority of such cases are better treated by tracheotomy. In most of these cases the swelling of the arytenoid cartilages is so great that the head of the tube in the larynx is overlapped; hence little relief is experienced."—Walsham.

"When acute edema of the larynx is complicated by having the jaw set or bp pharyngeal swellings, which might obstruct the top of the tube, either or both of which conditions may be encountered in cases of acute edema, secondary to circumtonsillar abscess, Ludvig's angina, phlegmonous angina, retro-pharyngeal abscess, etc., intubation is absolutely contra-indicated and fruitless; efforts thereat only serve to intesify the exhaustion and suffering of the patient."—Casselberry.

5. For the relief of dyspnea due to the pressure on the trachea. This preasure may be exerted by inflammatory deposits, by tumors, by enlarged tracheal glands, by aneurisms,

by foreign bodies in the œsphagus. Also by the neoplasms of the latter organ.

6. In the presence of a foreign body in the larynx, trchea or bronchus. The presence of a foreign body in the air passages is far more dangerous than the operation of tracheotomy. When performed for the removal of a foreign body in the air passages, this operation hardly ever terminates fatally. Foreign bodies enter the larynx during inspiration, when the vocal cords are widely separated, but their expulsion is prevented by the spasm excited by the slight irritation applied to the under surface of these bands. If emesis fails to secure ejection of the foreign body, perform tracheotomy at once. Do not wait for the foreign body to become embedded in mucus or fixed by inflammatory action. Open the trachea early; do not insert a tracheotomy tube, but keep trachea open by means of retractors, or a heavy silk ligature passed through each margin of tracheal incision; remove by use of forceps the foreign body, (you may attempt to secure its expulsion by having patient cough forcibly), and then, the offending body being removed, sew up the tracheal and cutaneous incisions. If your technique has been what it should be, early healing by first intention will occur.

7. In complete transverse wounds of the trachea, when attempts at stitching divided ends fail.

8. In fractures of the tracheal cartilages. To secure better apposition of fractured fragments. To relieve urgent dyspnea. Fractures of the larynx and those of the hyoid bone often, also, call for immediate tracheotomy. "The most timely and life-saving measure that can be practiced in fracture of the larynx is a tracheotomy by which at least security from suffocation is obtained."—Am. Text-book of Surgery. In fractures of the larynx, asphyxia is often due to an emphysema of the aryteno-epiglottic folds and of the mediastina. Tracheotomy nullifies any asphyxial symptom excited by the emphyesma of the aryteno-epiglottic folds.

9. As an ultimate measure to better combat arrest of respiration, occurring during chloroform or ether narcrosis. Tracheotomy facilitates the access of air to the lower respiratory regions. The accumulation of mucus, the falling backward of the tongue, the constriction of the jaws and other causes con-

tributing to the obstruction or closure of the glottic orifice, render the passage of air to the lungs through the upper respiratory passage difficult, if not impossible. This operation, supply a new route, meets an important indication. Being practiced upon sound tissues, the cannula is removed after recovery of patient from anesthesia and healing by first intention results early. "During anesthesia, if vomited food has entered the larynx and is not ejected by coughing, it is necessary to promptly perform tracheotomy and hold the edges of the tracheal wound apart, or to introduce a tracheotomy tube and practice artificial respiration,"—Wharton.

10. In stenosis due to destruction of the cricoid cartilage, tracheotomy is the only remedy. "Destruction of the cricoid cartilage allows the soft parts between the thyroid cartilage and the first ring of the trachea to collapse, thus causing asphyxia." —O'Dwyer.

11. In preliminary tracheotomy. This operation is indicated previous to many major operations upon the mouth, pharynx, larynx and trachea. Operative procedures upon the upper respiratory passages, after a preliminary tracheotomy has been performed, do not interfere with the patient's respiration, and it, in turn, does not interfere with the operative procedures. The anesthetic is administered through the tracheal cannula. The tracheal cannula prevents the passage of blood, of tissue masses and of other foreign materials into the respiratory passages. When the larynx is to be removed, preliminary tracheotomy divides the shock of the operation and anchors the trachea to the external wound in a way that avoids some of the complications incident to the after-treatment. It accustoms the patient to breathing through the artificial opening; it facilitates the administration of the anesthetic, which is then administered through the tracheal cannula, and it also lessens the danger of post-operative pulmonary inflammations. Souchon advises the performance of preliminary tracheotomy in the removal of goitre. The danger of asyphyxia by the aspiration of blood into the trachea, should the latter be accidentally torn during the course of the operation, is thereby avoided.

"In complete laryngectomy, preliminary tracheotomy is certainly indicated in those cases in which, from the dyspnea, the

patient's general condition would be greatly improved by a week or two of unimpeded respiration through a tracheotomy tube."—W. W. Keen.

12. In all serious injuries to the neck, from whatever cause, causing marked obstruction to the free circulation of air in the respiratory tree. If intubation fails to relieve the dyspnea, tracheotomy is the operation of necessity. Souchon and many other surgeons claim and teach that it is inadvisable in these cases to wait for urgent symptoms, because death may come on suddenly before the patient can be reached and the operation performed.

13. In the diagnosing of infra-glottic endo-laryngeal conditions. (Infrequent indication.) In the diagnosing of pathological tracheal processes- (Uncommonly used for this purpose.)

14. In the treatment of continually recurring laryngeal papillomata. These tumors, at times, only disappear when the larynx has a complete rest from its functions. A large number of cases have been reported of spontaneous cure after tracheotomy. Railton (*Brit. Med. Johr.*) believes that the spontaneous atrophy of laryngeal papillomata after tracheotomy is due to the elimination of all irritative agencies, such as cough, the use of the voice. etc.

15. "Tracheotomy is indicated when there is marked pharyngeal stenosis accompanying the laryngeal stenosis."—Bokai, Buda-Pesth.

16. In opening and evacuating a retro-pharyngeal abscess. The larynx can be tamponed once the tracheal cannula is in position, and the abscess evacuated without danger of pus passing into the lower respiratory passages.

17. In burns of the larynx and trachea. In burns of larynx and trachea, as well as in wounds and fractures of this region, death can easily be averted by tracheotomy, though the operation may not avail to save the patient from secondary lesions. The operation is the more valuable if performed early. These lesions often determine snch an inflammatory and edematous swelling of the parts that a late tracheotomy is difficult.

18. In infectious diseases associated with laryngeal manifestations of such a degree as to cause marked dyspnea; for instance, in varicella with laryngeal localization. In phlegmonous epiglottitis. In laryngeal perichondritis, when the process is associated

with edema of the ventricular bands and of the ary-epiglottic folds.

19. In maliguant laryngeal tumors. Malignant growths of organs adjacent to the trachea may also necessitate tracheotomy. "Esophageal cancer, previous to producing marked dysphagia, and other stenotic symptoms, can, by compressing the recurrent laryngeal nerves, provoke marked asphyxial symptoms necessitate immediate tracheotomy."—Goisque.

20. If the morbid process of the larynx requires cessation of functional activity, the physiological rest of the organ had better be obtained by tracheotomy."—Kyle.

21. Tracheotomy has been used in opium narcosis and forced respiration performed by rhe aid of bellows, connected with the tracheal opening. When other means fail, it is a justifiable procedure. (G. E. Fell, Bransford Lewis, Vienna Clinique.) "Tracheotomy shortens and simplifies the channel of communication between the lungs and that all-powerful lifegiver, 'fresh air."—Lewis.

22. In the treatment of post-tracheotomic vegetations. These are vegetations occurring in the trachea after the wound has cicatrized. Occur oftener in male children (Wharton). They embarrass respiration and are attended with a progressive dyspnea. Ross collected 14 cases. Dinger reported a case which died two weeks after the wound had healed. At the post-mortem there was found a tumor of granulation tissue in the trachea corresponding to the point where the trachea had been opened.

Treatment for this condition: Intubate. If this fails to relieve symptoms perform tracheotomy, remove grauulutions with scissors or knife, cauterize their bases, and introduce a tracheotomy tube for a short time. If no tendency to recurrence manifests itself, remove tube and allow wound to heal.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.

H. C. WADDLE, '03, Editor-in-Chief.

W. T. ECKLEY, M. D., D. N. EISENDRATH, M. D.,

W. A. EVANS, M. D., A. GEHRMANN, M. D.,

Associate Editors. L. HARRISON METTLER, M. D.

Local Editor, L. H. S. FRECHTLING, '03

Class Editors:

C. W. BURT, '01, W. R. FRENCH, 02, R. L. ELDREDGE, '03

M. R. MARTIN, '04.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. COATES

Alumni Editor, DR. C. C. O'BYRNE, '94 Clinical Department, JOS. ZABOKRTSKY, '01

Athletic " R. C. CUPLER '01 Library Department. GRACE W. BRYANT.

Advertising Solicitor, GEO. E. ROSENTHAL, '02.

Publisher, - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE,** 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers will not hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

THE FENGER BANQUET.

On November 3rd last, representative medical men gathered at the Auditorium hotel for the purpose of doing honor to Dr. Christian Fenger. The affair was a success from every standpoint. Never have so many men, of any one profession, gathered together for the sole purpose of honoring a living man. The College of Physicians and Surgeons has a special interest in this

testimonial since Prof. Fenger was connected with this institution for five years. In fact, it was during the five years in which he held the Saturday afternoon clinic, that his broad learning in pathology and his great skill in diagnosis were most manifest to the general body of physicians and students.

It is wise to think of the lessons that we are to learn from this demonstration, for if man are driven here from all parts of America for a purpose, the reason for existence of that purpose is worthy of analysis.

When Prof. Fenger came to this city and to this section, diagnosis was crude—there was no knowledge of pathology worthy of recount. Soon he gathered around him a small group of brainy men, to whom he taught the principles of pathology and the science of diagnosis based on pathology. At the time there was little market for such information. In time the members of these groups, for the groups multiplied, scattered and became the centers of other groups. In this way and in many other ways has he done more than any other man in this section to spread a broader comprehension of disease. Then the first motive responsible for this gathering was a desire to honor the scie tist who has always been true to his ideals.

Prof. Fenger is not only a very learned and a very sensible man—he is very modest. His modesty is one of his chief characteristics. Modesty is not used here in the sense of softness or lack of virility. He is a just man—a lovable man. He is a tireless worker, a most conscientious investigator. The profession is just as glad to honor Fenger the man as well as Fenger the scientist.

But in addition to these lessons, we are entitled to draw still other conclusions. This banquet teaches us that the great medical profession is willing to get together on any meritorious proposition. The man who opposes medicine men, the poacher on medical preserves, the pilferer from the medical treasurer house has been slow to recognize this and perhaps it is because the members of the medical profession themselves have not recognized it.

As another consideration, we must feel that every man who was there is bound hereafter to be broader, more studious, more scientific, more liberal and more charitable than he was before

he went. He, in turn, will both enthuse and soften those with whom he comes in contact. Ripples will go on unconscious of their origin. As Dr. Matthews said, it is the medical profession that makes it hard for the medical man, and wherever a medical man especially a young medical men is struggling, wishful of fulfilling ideals and bringing success to himself and family, yet sorely tried by the seeming attitude of the profession, this banquet and its sentiments must come as a benison.

It is proper that something should be said of the deportment of this banquet. It represented essentially and above all things, companionship. There was none of that well poised reserve that does more to harm the world than lying or stealing. The tone was that of joyous sentiment.

And now can we not hope that you who read this and countless others who read and hear of this banquet may note that the sweetest rewards that workers can give to those who work with them are bestowed on the quiet, conscientious, modest toilers, and thus may numberless students both in and out of college be spurred to better and more earnest effort. W. A. E.

* *
*

Dr. Channing W. Barrett, the author of the leading article in this issue of the PLEXUS, was born at Blissfield, Ohio. December, 1866. He was educated in the commou schools, the Fayette Normal school, Fayette, Ohio, and Hillsdale College, Hillsdale, Mich. After graduating, he taught school for six years, the last two years of which he read medicine in a doctor's office in Hillsdale. Dr. Barrett entered the Detroit Medical College, graduating in the class of '95. During the last two years of the course Dr. Barrett was junior and senior interne in St. Lukes' Hospital. '95-'96 he served as house physician in the Harper Hospital, Detroit.

In '96 Dr. Barrett came to Chicago and has been Dr. Newman's assistant since; is Asst. Prof. of Gynecology, College of Physicians and Surgeons; Prof. of Gynecology, Chicago Clinical School and Instructor in the West Side Dispensary.

Dr. Barrett has shown great interest in his work and it is well appreciated by the students as he is one of our most popular instructors.

* *
*

Clinical Department.

Prof. Ochsner's clinic. Dec. 4, 1900.

Name, Mr. H. S.; civil state, married; race, white; age, 46; laborer by occupation; nativity, German.

Family History: Mother died of cholera; father was killed by accident; has one brother alive and well; one sister has asthma; no other brothers or sisters; knows nothing of his grandparents or other relatives.

Personal History: Had measles during childhood. Uses alcoholics freely. Denies venereal infection.

Present Illness: Trouble began about four months ago, pain described as "gripping and scratching," was felt in the epigastrium when patient drank any liqnid. This pain would travel rapidly up to the throat and then cease, and another pain commenced below and travel upward again. This would continue until emesis occurred, which would relieve the distress. Thinks he has vomited matter which had been ingested as long as twenty-four hours previously. The stomach tolerates meats better than vegetables; liquids are readily ingested, but do notstay down. Has been constipated for six weeks, before which time stools had been frequent and semi-liquid for a few weeks. His appetite is good and is always thirsty when not getting liquids per rectum. Has never vomited blood nor were the stools ever black. Has lost fifty pounds in weight during the past four months.

Physical Examination: Complexion fair, somewhat cachectic. Tongue thickly coated. No pruritis; no glandular enlargement; heart and lung negative; spleen not enlarged; some fullness under left costal arch; largest olive pointed æsophageal probe can be passed without any difficulty.

Diagnosis: Carcinoma of the pyloric end of the stomach.

Operation: Surgical preparation of patient. Incision through right rectus, beginning about one inch below costal margin and extending downward for about three and a half inches. Peritoneum and transversalis fascia was opened between two tissue for-

ceps. Then the hand was inserted, the omentum was displaced upward and to the left. The stomach was found to be quite ex tensively involved.

The first loop of intestine, which was the beginning of the jejunum, was brought up; this being held by the assistant and an incision was made through the intestinal wall down to the mucous coat, a purse string suture of catgut was placed around the incision. A pair of hemostatic forceps was clamped on the mucous membrane within the incision, and gauze wrung out of hot water was placed around the intestine. The stomach was brought up into the abdominal incision and an incision made on the anterior surface just above the insertion of great omentum, down to the mucous membrane, and a purse string suture applied as was done in the intestine. The mucous membrane was brought out of the intestinal incision and cut off; that is, just enough of it to permit the passage of the Murphy button, which was done and the purse string suture was drawn tight around the shaft of the button and tied. Then the buttom was inserted into the intestine in a similar manner, and the two halves of the buttom were pressed together thus completing the gastro-enterostomy. It may be stated that before the intestine was united to the stomach it was given a half turn upon itself, thus establishing an intestinal current in the same direction as that in the stomach. This precau . tion prevents the uncontrollable vomiting that usually follows this operation. Intestines and stomach replaced and abdominal incision closed.

Case II. Same clinic.

Mr. S. J. Civil state, married; age 44; occupation, carpenter; nativity, German.

Family History: Negative.

Personal History: Negative.

Present trouble: Fourteen weeks ago while working about the machinery in a mill, was caught in a belt and drawn between two pulleys and suffered an injury to the right arm. The soft parts were lacerated along anterio-posterior surface of the arm for a distance of eight inches, the lower third of the humerus was fractured in two places. These injuries were dressed at once, the arm placed in splints. At present there is limited motion at

the elbow. Muscles of forearm are somewhat atrophied, extension of wrist and fingers is extremely weak.

Diagnosis: Musculo spiral involvement probably surrounded by callus.

Operation: Incision six inches in length, one inch anterior to the cicatricial tissue produced by the healing of injury and down to the musculo-spiral nerve, through the brachialis-anticus muscle. The nerve was carefully dissected out of the callus. The brachialis-anticus muscle was united beneath the nerve and the fascia was sutured over the nerve. Skin incision was closed and sealed with colodeaa dressing.

THE JUNIOR PROMENADE.

Unaided alike by the elements and student enthusiasm the Junior Promenade at Beek's Hall, on the evening of the 6th, was nevertheless a brilliant affair.

This being the initial Junior ball of the college and having been hastily arranged, proved to be a trifle more than the over loaded brain of the student could grasp. He needed more time for reflection; to read over his notes, as it were, and decide upon his duty to attend. He who stayed at home or went elsewhere, is now sorrowful, for the efforts of the committee to give a fine party fell not short of expectations and from early evening until the hours were represented by the smallest of their number, a happy throng glided in smooth and harmonious rythm to Fitzgerald's unresisting strains of melody.

A Junior Promenade is something new among us, yet its establishment is a certainty and from now on P. & S. students can avail themselves of the opportunity to enjoy the parties as given by the other large institutions—a Junior Promenade and a Senior Grand Ball each college year, and it is to be hoped that these events will be appreciated and not suffer for the want of patronage, thus making them the maximum of college social events.

The interest evidenced both by the Faculty and Alumni in our social attempts is marked and passes not without its due appreciation.

Alumni Department.

'83 J. W. Carhart is now located at La Grange, Texas. He has recently published a book entitled "Under Palmetto and Pine" which will be reviewed in a later issue of the Plexus.

'83 J. C. Hoover is located at Owensboro, Ky.

'84 C. L. Barber, Lansing, Mich.

'88 Jno. L. Bradfield, La Crosse, Wis.

'95 E. F. Talbot, of Flandreau, S. Dakota, was a recent visitor at the Plexus office. He had just completed some post-graduate work in the city.

'95 A. Gaebler, 4732 Ashland Blvd., Chicago.

'95 G. N. Lucas has moved from Malta, Ill., to Elgin, Ill.

'97 S. L. Fridus, 4834 S. Ashland Ave., Chicago.

'97 H. Wahl, Marshfield, Wis.

'97 J. J. Brinkerhoff, Minooka, Ill.

'99 Glenn Wood recently returned from a trip to Honolulu, where he went to recuperate after an operation for appendicitis. He reports a pleasant time.

'99 A. E. Kay, 953 W. Lake St., Chicago.

'99 Bernard Fantus, 635 Jackson Blvd., Chicago.

'99 C. A. McCormack, 1220 Adams St., Chicago.

'99 Lora L. Beedy, 529½ Jackson Blvd., Chicago.

'99 F. B. Steele, Nephi City, Utah.

'00 A. Bremken has returned to Chicago, and is now at 6141 Sangamon St.

'00 M. E. Block, 1153 Lincoln St.. Chicago.

'00 O. E. Church is located at Henry, S. Dakota.

'00 W. B. Grinnell, Fredona, Wis.

'00 E. M. Hurst recently performed a successful operation for gall stone. Not only has he done well in surgery, but he has been very successful in other things as he was married to Miss Eliza M. Herod of Greencastle, Ind., on Sept. 23. Dr. Hurst is still at Cloverdale, Ind.

'00 R. C. Monahan is now interne in the Ear and Eye Infirmary, corner of Adams and Peoria Sts., Chicago.

ATHLETICS.

The age of thinking men has come. The age of the masses has come, verified by the number who attended all of the P. & S. games this season. The age of college students has come and as its companion the age of foot ball, which drives away gout, fevers and rheumatism and causes us to renew the vigor and buoyancy of youth.

The last of this year's games was played at Notre Dame on Thanksgiving day. There was some sorrow which came deeply from the hearts of the team; it was not caused by the fact that the game had been lost, but it was caused by that very finest sense of manliness, (I am sorry old boy, that our last game is over, as the same eleven, we will probably never line up again, some of us may go from here to the ends of the earth by reason of our profession, but the fullness of our lives we shall remember, began at the college, and our athletics gave greater hilarity to our spirits and superior vigor to our intellect.)

The P. & S. goal line was not crossed this year, the great defence which was put up whenever our goal was in danger marked us preeminently as a team hard to beat at straight foot ball. Pat O'Dea's men were skillfully trained in the art of catching high punts; they showed no lack of experience in this line, for they captured all of the Major's high ones. Mr. Eggeman in a remark before the game stated that he would rather win from P. & S. than any other team; he said "you fellows have come down here for the past three years and all we got was tens with the one rubbed off."

In the first half the ball was kept well on Notre Dame's side of the gridiron. P. & S. to vary the play, used several masses on center with fairly good gains; the tandem was used, also end runs. During one of these, Joe Dean gave away to Poorman. Twenty yards was given to Notre Dame for off side which placed them on P. & S.'s thirty yard line with a free kick for goal. and facing a strong wind, Winters made a wonderful kick which went squarely over the bar. In short, both sides played magnificent foot ball, and had it not been for Winters' lucky, well-directed kick, the score would have been in favor of P. & S.

LINE UP.

P. & S.		Notre Dame.
Cory	C	Winter
Major	L. G.	Gillen
Parry	R. G.	Stoudt
Lockwood	L. T.	Farragher
Bothne	R. T.	Lartin
Dean, Poorman	L. E.	Glynn
Dowdall	R. E.	Farley
Donkle	Q. B.	Pick, Diebold
Pickett	R. H. B.	Hayes
Turner	L. H. B.	Kuppler
Comstock	F. B.	Lins, Sammon

Time of halves 30 minutes. Officials, Jackson, of Lake Forest, Alexander of Wisconsin. Time Keepers, Yockey, of Wisconsin, Soegaard of P. & S. Linesmen, Alward and Pick. Score, P. & S., 0; Notre Dame 5.

NOTES OF THE GAME.

Soegaard says the reason we didn't win was because smoke from the engine blew in from "de winder" when we went down.

Mr. I. K. (not K. I.) Parry says: "The only time I got my man was just once, and then I had just time to get a 'little off the top.' " (a hand full of hair.)

Major and Turner played with Ald. Thompson's ' 'All Stars,' Our team was asked to come out and play one-half against Yale. Many of the boys did not wish to play so soon after the Notre Dame game.

One of the daily papers in mentioning the "All Stars" Yale contest said "if Alderman Thompson plays P. & S. one half against Yale, the lawyers will meet the toughest proposition they ever encountered.

John Turner did not come home with the team, but remained at South Bend to see a patient. Who is she, John?

SENIOR NOTES.

T. J. H. Gorrell, when asked by Dr. Wells to define chlorosis said: Chlorosis is "green-sickness" of young g. ls.

President McDowell suggests trephining the uterus in cases of acute gonorrhœa.

Ill list.—Mr. McPherson was taken suddenly ill Saturday evening, Nov. 24, 1900, which appeared very much like appendicitis. He was taken to the West Side Hospital Sunday morning, where all of our boys receive such excellent care, and the diagnosis was acute appendicitis. By efficient care, the attack was aborted and he did not submit to an opperation. Wednesday evening he wished to return to his apartments on Congress street that he might be ready for a good Thanksgiving turkey in the morning.

Mr. Ruge, a member of the quiz class, was taken down in the last week of November with pneumonia. It is with sincere regret that this disease should come on him at this especial time when he needs so much to go over the work as the class moves on, for a slight set back, often means so much extra work, and at a time when one is not physically able to perform that work. We trust it may not prove serious in his case and that he may soon be able to take up the yoke with renewed vim.

Next morning after Thanksgiving the general question was, "How did you spend the day?" The invariable answer was, "Bucking for Dr. Quine."

Friday morning Nov. 30th, Dr. Holmes was compelled to be absent from his class, owing to illness. Although it is an early hour and was the next morning after the great "turkey day,' every member was in his seat, for the class as a whole is beginning to appreciate the fact that Dr. Holmes' method of instruction is superior to the ordinary didactic lectures of most institutions of similar character. The hour was very amply and profitably filled by the kindness of Dr. Davis. The members of the senior class are always ready to listen to the words of a man who has had the training and experience of Dr. Davis.

Friday Nov. 28th, the class voted tnat a committe consisting

of two members should go in person and call at the home of Dr, Holmes and express to the family, if not to Dr. Holmes himself, the deep sympathy which the class felt toward our beloved teacher and that our sincere hopes were for his complete and hasty recovery from his severe illness. Messrs. Rhodes and Jordan constituted the committee.

Dr. Cheney.—Miss Kennedy, what usually follows a severe attack of otitis media, as a complication of Scarlet Fever?

Miss Kennedy—Nephritis.

Dr. Cheney.—Deafness.

Prof. What is the difference between a hyaline cast and a mucous cast?

Sexton—A hyaline cast comes from the Kidney and a mucous cast comes from the bladder.

Dr. Quine—What is a saline?

English—Any thing which will produce a watery discharge.

Chicago is certainly passing through an epidenic of "burglary and hold-ups." It behooves every person and especially every student who is absent from his room some 8 to 10 hrs every day, to take every precaution possible against these pests. In almost every instance of a theft or hold-up, it is clearly to be seen that the said robber knew his game before attempting the robbery. So it is. I believe in case where a room is broken into, the one entering is familiar, every time, with the surroundings and that the land-lady at that time is out, otherwise they would not have entered. Mr. Leonard, and Mr. Hubbard's rooms were entered under like circumstances, late in Nov. Mr. Leonard reports the loss of 3 pairs of trousers and a vest. Mr. Hubbard was touched for a full dress suit and several articles amounting to some $150. We sympathize with these gentlemen in their loss, but realize at the same time, what little we have done in their behalf. Words are cheap, but clothes cost money, when an "honest" man goes after them.

Mr. Streich fortunately got correlled just before Dr. Goodkind's clinic, by several of the ladies of the class. Some say it was the fault of the ladies, while others said that he liked it, consequently would not listen to the urgent requests of his fellow male sex to evacuate that seat. Some of his most intimate friends went to him and asked him to please come up

higher for certainly that seat would do him evil if he remained. In spite of all pleading, and sarcastic remarks thrown at him, he remained surrounded by the gentler sex. When Dr. Goodkind entered the clinic he called down several of the members into the pit, but Streich was slighted. Some mischievous mind acted on the spur of the moment, and wrote a note to Dr. Goodkind which read like this: "Dr. Goodkind, may I come down to-day, as I cannot be here next week?" Signed Ed. Streich. Dr. Goodkind always ready to accommodate the boys immediately asked Mr. Streich to come down. Streich like a man left the room but did not make his appearauce before the class in the pit.

Dr. Davison quizzing Ling: "What would be the next step in the proceedure after the wound had been washed". Ling—"I would remove the 'Bismark bandage'."

N. B. The day before Thanksgiving, Denny was seen smoking a cigar. Denny gets the "pull and the puff" pretty well, but what gets him is, he doesn't seem to know what to do with "the two-for-five" while it is not in his mouth.

Ames can get more fun out of an anæsthetic than any other member of the senior class. The other day he administered the anæsthetic to a friend of his. Well, while Ames was watching the operation and making "goo, goo eyes" at the fellows "on the side," his friend woke up and Dr. D. had to stop and sterilize his hands while Ames re-anæsthised his friend.

Dr. Christopher has been detained from his class for several days on account of illness. The nature of this illness has not been learned by the writer, but it is sincerely hoped by the class that Dr. Christopher will soon be restored to normal health and return to his class, for it has seemed already as though he has been away for a year. Dr. Christopher's line of work is just the work that will stare the beginning physician full in the face, about as soon as any thing, when he hangs out his shingle. Thus it behooves us to get all possible in the time alloted for his subject.

A few member of the senior class got the notion into their respective craniums that there should be an executive committee selected which should consist of five members. This idea was presented in an informal way and at an unexpected time, to

the class. After some little discussion the idea was voted upon and carried. Evidently the supporters of this motion forgot that the class already has an executive committee according to by-laws of all similar organizations. The executive committee in all like bodies consists of the President, Vice President, Secretary and Treasurer. Why could not these persons have been allowed to fulfill the work which they were asked to do by a ballot being taken last spring? These men were chosen by the class. What use has the class now of their Secretary and Treasurer? Nothing, absolutely nothing. The work has been taken from the hands of those selected by 160 men and put into the hands of five men chosen by one man. It is an insult to the officers of the class to be sat upon in this manner.

The treasurer, according to the by-laws, is supposed to keep account of all expenditures, collect all assessments, and he ready at any time to give a writteu statement of all collections and disbursements. Shall the class feel free to ask such information now that the executive committee have control? Would an executive committee, which had been chosen legally by a class, come before a body of ladies and gentlemen and ask that all matters concerning the class be left to them completely? Is there another man in the class who would rather leave all affairs absosolutely in the hands of these five men, than to the 160 persons of the class, other than Mr. Sherwood? One would be inclined to think he had been offered a trip by the committee after such a statement. Chairman Hoxsey arises and attempts to explain matter, but did not seem to know why. About this time President McDowell gets excited and takes a whirl at the question himself. He evidently had forgotten that last spring there was chosen a vice president, whose duty it is to take the chair whenever the president wishes to debate upon the question which is before the house.

What's the use of being so shy—when we all know why—Teddy sat so high in the amphtheater on a certain occasion during Dr. Quine's lecture? Miss Howie, of Milwaukee, is a fine looking and appearing young lady, and why Teddy did not seat her lower in the amphitheater is a mistery to the fellows. It is nice indeed to be favored with a visit from a cousin, as Teddy was

but one must not neglect his work too greatly, to show said cousin the sights of a great city like Chicago. Teddy only missed two days.

The truthfulness of the statement that Van Horn's paternal ancestor is a soldier has asserted itself. Van's recent act of gallantry in unearthing the motto of the class of 1900 from a secluded spot behind the radiator in C. A. and mounting same upon the clock for all eyes to gaze upon, certainly savors of the history of the Stars and Stripes over Aguinaldo. At least Van should be credited with being present for that day.

Have you noticed Lampe's desire for a side seat in the first row in the C. A.? This craze has been only recently, as you know we have a new *clean nurse.* It is strange how some become infatuated with the lives of others. Lampe says the operations do not seem to be nearly so interesting along toward Xmas.

JUNIOR NOTES.

Aaron is wasting money on telegrams. Did you hear about the Thanksgiving message?

Harron would listen for peristaltic movement at the apex of the heart.

Why not ventilate the amphitheaters? When the heat is excessive and the air so dense you can't see through it, any one on the top row who would open a window would do justice to himself and his smothering brothers below. We hear a great deal in our medical course about hygiene and ventilation and let us put this into practice in the lecture room.

Grabow locates the axillary space at the elbow. Our prosector no doubt intends revising the anatomy.

Ask the superintendent if he knows Dr. Harris.

Haynes won the championship this month among the sleepers, beating Kirch by a nose.

Did you see Kitterman superintending Dr. Lydston's operation on the cadaver?

Next year's quiz class for hospital work is being formed. The following are expected to be competitors: Myers, Jennings, Morris, Kittler, Fukala, Whyte, McConville, Tolly, Court and Kyes.

The West Division High School building is now the property

of the college. Thanks to the efforts of Messrs. Podger and Klinger.

"There is one fine gentleman in the class this session, and he is young too."—Miss Freeman.

Every one who attended the Junior dance reported an enjoyable time. It is the first class dance we have had and Mr. Zohrlaut deserves much credit for its success.

The difficulty of fixing up poor attendance records in dispensary has been solved. If the incoming section wishes any information on this subject see Kittler and Dorn.

Professor—Why do we have gummy deposits at the epiphyseo-diaphyseal line? Rightman—Weak point. Professor—Yes, I see the weak point. Do all the sophomores look like this?

Dr. Brawn to Mr. B. B. Exhaust the air in the patient's ears. Take the Palitzer bag and have patient take a mouthful of water and insert tube in one nostril holding the other closed with the finger, and as she swallows press on the bulb. Mr. B. filled the bag with water and instructed patient to swallow while he did the rest and the patient was suddenly flooded.

That Kittler will some day be an expert at bandaging is conceded by all who witnessed the demonstration recently, at which time he applied his celebrated four tailed bandage. He says it is the latest.

Lunn says it does not pay to try to accommodate any one by loaning lead pencils, and especially to professors. Cheer up old man, he may return it.

Did you see Hahn giving the Indian dance after our recent collision with the freshmen? Hahn was not injured, but was like the little boy who cried to keep from getting hurt.

We have a corps of paper wad shooters in the class that have skill enough in their line to be called experts. Their shots have a reviving sensation in the asphyxiating atmosphere of the lower amphitheater and if you have not been hit you have missed something exhilarating. We will give the name and rank of these sharp shooters next month.

R. O. Shelton was called home this week by the illness of his father.

The proposition of the Juniors to play the combined football talent of the Sophomore and Freshmen classes on last Friday was

not accepted by the latter. Is it true that the first and second year classes are not game?

SOPHOMORE NOTES.

The class had been in session for over an hour: Intermission had been granted, after a demonstration on the rear rows such as usually occurs whenever the professor tries to talk beyond the stroke of the clock. Although the bunch knew that a rigorous quiz awaited them on the resumption of the session, they were none the less insistent on having a chance to stretch promptly. The professor had been talking on the uses and abuses of water so long that the bunch had begun to wonder if he had forgotten the patent medicine concerns. He had journeyed from a far-away town in another state for the express purpose of expounding to this particular bunch his views on certain subjects, and in order to satisfy himself that each one knew what had been said fifteen minutes previously, he began to quiz.

The professor had not always lived so far away from the college. Once he resided in the city, and, just to pass away the time, had taken up training the young medical sprout how to shoot. The habit soon became strongly fastened on him, and he found it impossible to throw it off, even though he took to the woods in a vain endeavor to find congenial environments among which he might forget to ask for the action externally and locally. It was of no avail, however, and he was impelled to make the long journey to the college each week, even though now and then he had an inclination to "let his head rest right where he was." At this particular exercise he had momentarily left the pleasant waters, beside which he had so long lingered, and had wandered into the green fields of a hypothetical case of poisoning, complicated with faulty renal elimination. After much patient questioning, during which he had informed Sackett how to spell it, the professor had progressed as far as some means of favoring elimination. Various means had been suggested, all the way from Epsom salts to a Turkish bath. The doctor, however, was under the impression that there were no Turkish baths out on the prairies of Kansas, so he had to

pass on to the next. Finally in sheer desperation he lookod up to the third row, among the members of the fair sex, for a description of some appropriate method of producing diaphoresis. He found it. This is practically the way it was given. Place the patient on a rubber sheet (there are plenty of them in every Kansas cabin), surround him with hot bricks, then pour on these alcohol (which every Kansas populist has plenty of), afterwards covering the patient with a blanket or two, surmounted by another rubber sheet—in fact make the patient air tight. Certainly, that is the proper modus operandi. In no other way could it be so effectively Dunn.

We are pleased to note the return of Uran and Cody after a somewhat extended absence on account of sickness.

King doesn't mind being compelled to keep good company, but does object to the manner in which it is accomplished. He also protests that it is too arduous a task to read all these notes. However, he has no reason to complain; every one is willing to yield their chair whenever circumstances seem to demand it.

Mac realizes that he is unable to talk fast enough to satisfy an individual who is accustomed to the many and bewildering hues to be seen on State street—especially the vermillion shades. Perhaps some time Mac may be able to do it briefly, quickly and in a very diagrammatic manner.

Even the professor had difficulty in suppressing a smile when a certain specimen was declared to be "so clear as you don't see them often." And then the speaker wondered what was the matter.

Parkinson will undoubtedly follow the advice given him by the doctor to "stick to ethyl."

Under the caption "Original Contribution" a few pertinent paragraphs have been handed in. Will the author please disclose his identity. We should like to secure him for our editorial staff. The lines are as follows:

"The lectures are referred to by some as Butler's "Story;' Santee's "Sophs in Wonderland;" Mettler's "Bottomless Pit;" Gehrmann's "Bug Story;" Evans' "Observation;" Beck's "Terror of the Slide;" Wesener's "Unknown Science."

Answers to correspondents:

"W. H. M.—Don't do it. The D. Js. watch and guard their ladies like real knights. Danger; keep out.

"Inquisitive.—Your complexion needs soap and water most of all. Then try cold cream.

"Molly.—Oh, yes; there is dancing at footballs. Ask the Russians for details.

"Budding M. D.—Oh, no; all anesthetics should be labeled 'Pro-pain.'

"Annie.—We regret that we cannot tell you where Mr. Gourley got that blue tie.

"E.—Your case has never been heard of. (The criminal court will decide that next month).

"Charles.—Oh, no; the junior prom. would have been an utter failure without the sophs.

"Si P.—Yes, you can get a comb in the office if you really need it as bad as they say.

"E. F. M., E. F. S. and others.—Yes, the D. J. girl you mention is all right, as far as we know.

"F. W.—No, we don't know the tobacco Mr. C–n smokes. We can tolerate all tobaccos used by semi-civilized or barbarous nations, but we draw the line on red horse hair, rubber shavings, sealing wax, etc.

"W. M. W.—No sir. Neither the trifacial nor seventh nerve originates in the motor oculi. Study your Santee.

"Squegee.—Oh no no, no; St. Vitus dance was practiced by the Roman s way back. It is not a strictly modern product, although some use it yet."

FRESHMAN NOTES.

Jarvis, who has been sick in the hospital so long has so far recovered his strength as to be able to go home. We hope to see him with us next term.

Report circulated thro' the class that Warvel, had been forced to abandon his work on account of his lungs, but he was back in classes after a few day's absence and says his lungs are "O. K."

"Unknowns" are bothering us some; now here are a few that have been brought before the class within the past month:

Why, Blackmer went to sleep in Anatomy class? Who were those ladies Gopota had up in the dissecting room one evening? Why, Archer is wearing eyebrows on his upper lip? Who broke the railing around the pit in L. A.? etc., etc.

A. F. Henning put on his very best black suit, one day last month, cut his classes, went down town, and to the rest of his actions its a big question to us but to him 'twas a lovely dream.

When seen at the Palmer House, one not knowing him, would possibly tho't him to be a rising politician with his manager, for there he was totally unconscious of his surroundings except his most fair companion who sat by his side and her parents across the table.

However, he was able to attend his work the next day, but he had that "all-gone" expression which spoke plainer than words. He says he had a good time.

Any one desiring turkey for Christmas will do well by seeing Stuart. He was lucky enough the last turkey season and many were lucky enough to be his friends. He wears a chain of fifteen turkey bills as a remembrance of the time.

Case and Haslit are on the sick list. We hope for their speedy recovery.

A SURPRISE FOR THE SOPHS..

The landslide of touch-downs, goals and field goals which the Sophs so confidently expected would pile up on the "Wan D. Js" fail to get into motion. Poorman's set of "Little Willie's" was not competent to back up against the brawn and sinew furnished Sloan by the class of '04; with no practice the freshmen undertook the difficult task of playing an old and well coached team. They played that team however, in fact played all around them.

The Sophs kicked off and the Freshmen with their characteristic grit fought the ball by a series of line bucking and end runs, down to the Soph's two yard line without a fumble or check. This was remarkable work, considering the deep mud and the lack of familiarity with each others methods of play, existing in the Freshmen team.

In rain, the Sophomores as a team, tried to stop the Freshmen but at the last moment with the ball on their two yard line one of their number rose in his might and saved their goal from

disgrace. The man whose name should be written in letters of fire on every Sophomore's football voice was none less than their time keeper, Lang. Wise boy—he must be great who lives fifteen minutes in one. So be it. This ended the first half and the second was like unto it.

NOTES.

Little Merritt had all the appearance of being fixed, we hope he was not.

Maggie, who do you consider the prettiest boy in the Sophomore class.

Lizzie O; Lang! of course.

We would advise Poorman to take Carter's Early Risers for that cramp in his leg.

Every man on the Freshmen team played with a vim and spirit that the class should be proud of. Hattery, Ash and our little quarterback, Anderson, did some fine tackling. Sloan was the ground gainer and covered himself with glory when he broke loose for the thirty-five yards, the longest run of the game.

LINE UP.

Hattery	R. E.	Ash	L. E.
O'Niel	R. T.	Sloan	R. H.
Armstrong	R. G.	Replogle	L. H.
Kruk	C.	Anderson	Q. B.
Galley	L. G.	Blumenthal	F. B
Miller	L. T.		

Y. M. C. A. NOTES.

The Association has been fortunate in having three members of the faculty give addresses this term, the first one given by Dr. Post appeared in the last number of the PLEXES. A few weeks later Dr. Mettler gave a most excellent addres on "Character," which was listened to with a great deal of interest throughout.

Dr. Quine was the last man to address the Association and his subject was "Silent Influences." About one hundred and seventy-five students turned out to hear him and every one felt amply repaid for doing so, as he spoke very forcibly and earnestly on the subject. The next address will be given by Dr. Butler soon after the Christmas vacation and those who have heard him know that he will have something good for us.

It may be of interest to some to know that the Association has three Bible classes carried on under the direction of the International Committee, in which the students take a graded course of study. This course covers the four college years and is arranged and systematized by the general secretary in New York city, and is such a one as appeals to a thoughtful student. All students are invited to join these classes.

Quite a number of P. & S. men attended the student reception given at the Central Y. M. C. A. building on Dec. 8th, and report an excellent time.

Owing to the fact that the Y. M. C. A. room in the college building had to be taken for laboratory room the meetings and Bible classes are held at the Association house 596 W. Adams St. The regular weekly prayer meeting is held on Wednesday evening each week from 6.45 to 7.15 instead of on Monday evening. All are cordially invited to attend the Wedneaday evening meeting.

NEWS ITEMS.

Dr. Evans enjoyed a trip to the South last month. During his absence Dr. O'Byrne met his class.

Dr. G. Frank Lydston gave a lecture in clinical amphitheater recently on the subject "The Literary Doctor and the Doctor in Literature." The lecture was well attended and well received.

The Alpha Epsilon Iota Grand Chapter meeting was held with Gamma Chapter at Laurel Memorial College, Cincinnati, December 8th. Miss Nancy Lee Martin represented Delta Chapter of the College of P. & S. Miss Martin reports a pleasant time. She gave a toast on "Co-Education."

Dr. Christopher was unable to meet his classes for some days owing to illness.

Members of the school were extremely sorry to learn of Dr. Bayard Holmes' illness. We are glad to know however that the doctor is now rapidly on the way to full recovery.

F. H. Wizzell, a Texas storm survivor, in a letter of thanks to one of the local papers, makes the following statement mentioning Charles Wiltfong, our house surgeon: "Dr. D. E. Lucas and Dr. Wiltfong, of Chicago, both of your relief train, found us in Alvin one week after the storm, greatly in need of care and treatment. They took us to the temporary relief hospital they had established in Houston, where we received treatment at the hands of the physicians and nurses, and without which I should not have survived, for we were helpless and without means. We are now fairly on the way to recover our health and strength.'

Dr. D. E. Lucas was a member of the class of '99. P. & S. was well represented in the Galveston disaster.

INCOMPATIBILITIES OF HEROIN AND HEROIN HYDROCHLORIDE.

Heroin and heroin hydrochloride from an essential part of so many formulas for the relief of cough, dyspnea, and pains in the treatment of respiratory affections that it is important to determine in what combination they will prove most effective, and what are their incompatibilities. Owing to the insolubility of heroin in watery solutions it is necessary to add a few drops of some acid, acetic or hydrochloric, in order to effect its solution. This can be entirely obviated by using the hydrochloride, which is freely soluble. The only incompatibilities of heroin and the hydrochloride worthy of special mention are the alkalies, such as bicarbonate of sodium and carbonate of ammonium. On the other hand, salts of neutral reaction, such as iodide of potassium or chloride of ammonium may be used in the same mixture, and this also applies to acid salts, such as the hypophosphites or acid phosphates. The vegetable expectorants, as ipecac, senega, squill, and sanguinaria, are entirely compatible with heroin and its hydrochloride. Although many physicians employ heroin without admixture, very desirable results have been reported from combinations with iodide of potassium, chloride of ammonium, and the vegetable expectorants, according to the indications present in particular cases. A word as to the dosage of heroin and heroin hydrohloride may be of interest here. The large doses at first recommended at the time of the introduction of heroin are no longer preferred by the majority of authors, the average dose ranging from $\frac{1}{24}$ to $\frac{1}{12}$ grain in adults, and $\frac{1}{120}$ to $\frac{1}{60}$ grain in children. It is advisable not to employ larger doses until the smaller ones have been given a trial. Furthermore, many physicians now resort to the hyperdermatic use of heroin hydrochloride in cases in which it is desirable to obtain an immediate effect, and especially in the treatment of spasmodic conditions, such as asthma, care being taken in the preparation of solutions not to add the drug until the water has partially cooled.

A BACTERIOLOGICAL TRAGEDY.

J. Lee Hagadorn, M. D., Los Angeles, Cal.

A gay bacillus, to gain him glory,
Once gave a ball in a laboratory.
The fete took place on a cover glass,
Where vulgar germs could not harass.
None but the cultered were invited
(For microbe cliques are well united),
And tightly closed the ballroom doors
To all the germs containing spores.
The Staphylococci first arrived—
To stand in groups they all contrived—
The Streptococci took great pains
To seat themselves in graceful chains.
While somewhat late, and two by two,
The Diplococci came in view.
The Pneumococci, stern and haughty,
Declared the Gonococci naughty.
And would not care to stay at all
If they were present at the ball.
The ball began, the mirth ran high,
With not one thought of danger nigh.
Each germ enjoyed himself that night.
With never a fear of the phagocyte.
'Twas getting late (and some were "loaded"),
When a jar of formalin exploded,
And drenched the happy, dancing mass,
Who swarmed the fatal cover glass.

* * * * * *

Not one survived, but perished all
At this bacteriologic ball.

—*Southern California Practitioner.*

ALEXANDER HUGH FERGUSON, M. D.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. JANUARY 20th, 1901. NO. 9.

SOME OF THE CLINICAL AND OPERATIVE PHASES OF CHOLELITHIASIS.

By Alexander Hugh Ferguson, M. D.

This a pleasant world to live in, were it not for the ills that human flesh is heir to and the systemic disturbances caused by our environments. Cholelithiasis adds its quota to human suffering, and has sent many a valuable life prematurely to the grave. In recording the family history of gall stone cases, it is not infrequent to learn that near and remote antecedents died of jaundice after many years of suffering, at an age far short of three score and ten. The corelation of spasm and jaundice was observed by the ancient fathers of medicine. Galen remarked that "when nature is unable to evacuate the bile (by spasmodic efforts), it is collected in the skin, and occasions jaundice." In the various scientific evolutions history records the gradual acquirement of facts connected with this most interesting disease, and now the symptomatology and pathological anatomy, occasioned by the acute and chronic impaction of gall stones, are taught to every medical student. Whatever knowledge of gall stones may have been gained through the untiring efforts of devoted physicians of other times and countries, the honor is due to American surgery, through Dr. Bobbs, of Indianapolis, of instituting the treatment that is now recognized as the sheet anchor—cholecystotomy. Indeed, no mention is to be found in text books on surgery, up to a recent date, of the surgery of the gall bladder and biliary

ducts, except that which deals with rupture, abscess and cancer. Their treatment was considered wholly within the province of the physician. The most noted men in internal medicine now are only too willing to share the responsibility of treatment with the surgeon. The gall stones are removed whenever they become obstinately impacted, disturbing the comfort and endangering the life of a patient. Cholelithiasis may be considered as almost wholly a surgical subject. When these cases come to us they are often the subjects of great suffering, the stones are fully formed, and probably have done much damage to the tissues in vainly trying to pass with the bile. The life history of a gall stone from its formation to the time of its impaction, explaining all its etiological factors and relations, has not yet been fully written. This phase of cholelithiasis is within the scope of the physician, and we look to improved methods of diagnosis on his part and to our laboratories to unravel the etiological mysteries of this affection. Thus far, suffice it to say, that scientific researches apparently show that germs are the main factors in producing the cholelithiac condition. Physicians are investigating the clinical evidences of its prodromal stage. If this can be established and the mature formation and impaction of gall stones prevented, then the physician can rejoice in reclaiming a vast portion of his former domains, and the cunning hand of the surgeon will oftener be stayed.

Symptoms and Signs: The routine recitation of the symptoms and signs of cholelithiasis, as found in the medical and surgical textbooks, is of very little value to the practitioner, student, or clinician. All the symptoms and physical signs are interesting and instructive. I shall only deal with the main ones. The most characteristic evidences of the disease are manifested by suffering and jaundice with their associated symptoms and signs. The sudden onset of regional pain and tenderness, with or without apparent provocation, lasting from a few minutes to several hours, with little or no pyrexia, and normal or slow pulse; the pain and tenderness stubborn in yielding to applications of moist heat, or internal medication and subsiding as suddenly as they began, is a clinical picture of a stone or stones becoming impacted in the cystic duct and again receding into the gall bladder. The posture sense of the pain is undoubted by the patient, and the higher sensibility in the gall bladder guarded by a tense right

rectus muscle is easily demonstrated by the surgeon. The pain is not always sudden in its onset; its seat is sometimes far distant from the gall bladder; it often follows some exertion which suddenly increases the intra-abdominal pressure; may last for ten or more days; fever may rarely be high from the start; and the subsidence of the pain quite gradual.

In the following order of frequency the pain may be referred to (a) pit of the stomach; (b) the back near the angle of the scapula; (c) umbilicus, and (d) the different parts of the abdomen and body. But when the surgeon makes pressure over these places, very little or no tenderness is complained of, at which the patient expresses surprise. Pressure on the gall bladder during an attact of colic always elicits local tenderness and increases the intensity of the local and referred pain. If the pain is intense while the stone is traversing the cystic duct, and suddenly becomes less severe in character, then the concretion has either dropped back into the gall bladder or entered the common duct, for, both being larger than the cystic, there is more or less stretching, hence the alleviative of the suffering. Should the pain continue and jaundice ensue, the stone is evidently obstructing the main duct, but if with these conditions existing sudden relief is experienced, it no doubt has found its way into the duodenum. The pain usually becomes excruciating when a calculus is going through the ostium duodenalis, the narrowed part of the ductus communic choledochus. The attack is now over and the jaundice clears away within a few days. There is a wonderful variation in the severity and character of the pain, and the various constitutional effects differ very materially in different individuals. It saps the courage of the bravest patients and "doubles up" the most robust and strong-minded individuals. Like many other acute suffering affections, where pain is the most prominent subjective symptom, it disturbs all the great systems of the body, some to activity and others to retardation of function, and even death ensues at times.

In cases demanding operation, biliary colic may be present without gall stones, and gall stones may be present without biliary colic: I have opened the abdomen four times in search of gall stones and found none. In two of these the gall bladder was distended with bile and displaced inwards, its fundus directed toward the median line of the body. The colic was well marked and moderately se-

vere in the one case, while in the other, an aged lady of 70 years, it was so severe as to cause collapse and grave symptoms of sudden dissolution. A cholecystotomy cured both cases. I have called the condition in these two cases "flexion of the gall bladder." (*British Medical Journal*, Nov. 6th, 1897).

In the third case inspissated bile, dark in color, and of a tarry consistency, filled the gall bladder and occluded the cystic duct. It was so thick and tenacisus that it had to be scoped and moped out for it would not flow. No gall stones were present. She had suffered repeated attacks of colic for years.

The fourth case was one in whom the gall bladder was converted into a retention cyst. It contained clear mucus, was about the size of an egg, round in shape, very tense and hard, and it had no communication with the cystic duct. There was a fibrous occlusion of the cystic duct.

In four other cases of mine there was no clinical evidence of cholelithiasis. Three of these had dropsy of the gall bladder. The stones found in each were very large and latent, producing no pain. The gall bladder was greatly enlarged in each. The fourth case of gall stones without biliary colic was one of partial empyema of the gall bladder and an extramural chronic abscess, situated in the lumbar region, very much resembling a sarcoma. A large stone was impacted near the fundus of the gall bladder, dividing it into two cavities, a proximal space containing bile with large and small latent calculi, and a distal cavity at the fundus containing pus and communicating with the abscess cavity in the lumbar region. In about 12.5 per cent of cases of chronic obstrnction of the biliary passages, colic is absent, according to Courvoisier. This has not been my experience.

Frequency of Biliary Colic: It may be said that one attack predisposes to subsequent attacks, unless the stone or stones pass into the intestines during the first attack. A variable time may elapse between the attacks, even years. It appears to me that the more chronic a case is, the more frequent and less severe the colic beccmes. In several of my cases of chronic impaction, eventually the pain became almost constant. From two to eight or ten attacks per day is not uncommon, the patient becoming completely incapaciated for work.

Causes of Biliary Colic: The causes advanced are: (1) spasm of the muscular fibers of the gall bladder and ducts; (2) forcible

stretching of the duct wall; (3) spasms of the rectus abdominis muscle; (4) emotional diaturbances; (5) inflammatory swelling of the mucus membrane of the ducts (Rtedel), and (6) one authority goes so far as to say, in writing about gall stones in the gall bladder, that "the so called gall stone colic is suppuration of the gall bladder." This is a mistake. If it were so, we should meet more frequently with cases of inflammation, ulceration, empyema, and gangrene of the gall bladder, due to germ infection; whereas the fact is that in over fifty per cent of cases of gall stone colic no germs can be found in the bile taken from the gall bladder and ducts. In my opinion, the local pain or colic of cholelithiasis in non infected cases is caused by two factors; first, by spasm of the muscular fibers of the ducts and gall bladder; and, second, by the stretching of the ducts and gall bladder. When the gall bladder and ducts become fibrous and so pathological as to lose the power of contraction, then the stretching in non-infected cases is the sole cause of the pain. There is no hollow viscus or tube in the whole body that can be forcibly over-distended or over-stretched without causing the most excruciating pain, whether that organ or passage be normal or diseased.

I have repeatedly tested the sensibility, distention and con tractility of the gall bladder and ducts of patients operated upon for gall stones. The first case on whom I demonstrated the cause of the colic to be over-stretching of the gall bladder and cystic duct was a Mrs. C., on whom I performed a cholecystotomy on the 20th of Arpil, 1895, before the Chicago Post-Graduate class. The operation was performed in the then orthodox way, and an external biliary fistula followed, which I cured by a plastic operation on the 10th of August of the same year. Between April and August I repeatedly sounded the duct, mechanically irritated the inside of the gall bladder, and over-distended it with water. Any quantity of warm water would pass through the ducts under low pressure, but whenever the douch bag was elevated, thus rapidly increasing the pressure and quantity of water entering the fistula, the gall bladder became filled to over-distention, because the inflow was greater than the outflow through the cystic duct, producing there and then her old-timed typical gall stone colic. The pain was local, over gall bladder, and also referred to the umbilicus and between the shoulders, just the same as before the operation, The passage of small

flexible bougies into the ducts gave rise to no pain until stretching occurred somewhere. The rubbing of the inside of the bladder with probes and bougies gave no inconvenience, but just as soon as an olive-pointed bougie or sound a little larger than the caliber of the cystic duct entered its orifice, the typical colic of gall stones suddenly came on. Since then the colics caused by over-distending the gall bladder with water aud by stretching the cystic duct with a bougie have been produced by me before the class on many cases of cholecystotomy. An olive-pointed bougie large enough to enter the cystic duct with a little stretching of it is within a minute grasped by the circular muscle fibers of the neck of the gall bladder, requiring more force to withdrawn it than it took to enter it. During this act the gall bladder will become somewhat contracted. From this I conclude that the spasm is an etiological factor in gall stone colic when the power of contractility is still present in these structures. When the bladder and ducts are fibrous, hard, and firm, no pain is produced in them except by stretching. The etiology of the biliary colic may be schematically presented, as follows:

Causes of Biliary Colic:

I. Primary.
1. Over-distention and stretching of the gall bladder and ducts.
2. Spasm of muscular fibers of the biliary passages.

II. Secondary.
1. Tonic contraction of the right rectus abdominal muscle, pressing an over-distended gall bladder.
2. Infection, causing inflammatory swelling.
3. Cancer of the gall bladder and ducts intensifies the colicky pains.

Gastric Disturbances. Vomiting is a common sign of biliary colic and is often very troublesome. It usually follows the pain, and is acute,—the stomach centents, mucus, and often bile coming up. When bile is vomited in jaundiced cases, it shows that the obstruction of the common duct is not complete, then, too, biliary pigment can be found in the stools. When blood is vomited some gastric disease may be looked for as complicating the cholelithiasis. The vomiting in five of my chronic cases of gall stone impaction with jaundice, became a daily occurrence and so easily provoked that no solid food could be taken. When the kidneys are diseased, the vomiting is more persistent and fre-

quent. This was very noticable in two of my cases. If large gall stones are found in the vomited matter, it is evidence of a fistula having formed between the gall bladder or biliary ducts and the stomach.

Nausea accompanies the chronic cases of vomiting and is provoked by the slightest pressure on the impacted stones. Clay-colored stools have long been recognized as caused by complete obstruction to the flow of bile in the ducts. If small gall stones are found in the stools during or following an attack of biliary colic, they have escaped from the gall bladder and ducts per via naturales. If they are larger than what possibly can pass the ducts, then they most likely have come into the bowels through a fistula formed by means of pressure atrophy or ulceration. Enteroliths composed principally of gall stone material, (cholesterin) sometimes obstruct the bowels. If the transformation of cholesterin into stercorin is by some means retarded or prevented, there is no reason why these very large gall stones could not form in the intestines themselves. Indigestion, constipation, irregular tympany, cough, nervousness, emaciation, etc , are other signs of cholelithiasis.

Jaundice. In cholelithiasis jaundice is either acute or chronic, caused by absorbtion of the bile by the lymphatics in acute or chronic gall stone occlusion of the hepatic or ductus communis choledochus. It is the most certain and frequent sign in chronic cases of obstructed common or hepatic ducts. It occurs in rare instances when no stones are in these ducts. I have seen the hepatic duct blocked with echinococcus cysts causing jaundice. Cases are reported where large stone or stones in the gall bladder or cystic duct pressed upon the common duct so as to obstruct the flow of bile. It is clear that it occurs by mechanical pressure from without, as well as by impaction from within the ducts. It is said by Riedel and others to be very frequently caused by an inflammatory swelling of the mucous membrane of the biliary passages which commences in the gall bladder, whence it extends into the cystic and common ducts, obliterating their lumen, I do not believe that two-fifths of the cases occur in this way, as stated by Riedel. Upon the removal of the obstruction by operation, water can be forced through the ducts into the duodenum, but not always, and this could not be done if the ducts still remained obstructed by inflammatory

thickening of their mucous membrane. Immediately after operations relieving impaction of the ducts, the quantity of bile pigment in the urine decreases in some cases at least before inflammatory swelling could subside, I must say that I have seen the jaundice deepen for two or three days after an operation. I have also noticed what I judged to be "suppression of bile," after cholecystotomy; for several days no bile would appear into the gall blaller. This may have been congestive swelling obstructing the ducts.

Beautiful theories as to the cause of jaundice have been advanced, based on the disturbance of the liver cells (Liebermeister) and reflex nervous influences (Pick). Jaundice is not present in gall stone colic, and we should not wait for its appearance before recommending an operation. It may never appear. The patient may suffer attacks for years with no jaundice. It is found by operation that the gall stones were too large to ever pass through the small ducts. An interesting case was met by Cruveilhier in which the common hepatic and large branches of the intra-hepatic bile ducts were filled with calculi, and still no jaundice never appeared. The bile must have trickled through between the stones to its normal destination. It is not an infrequent occurrence for bile to escape for a time around a large stone in the duct, especially in those extremely jaundiced cases where an incomplete operation is designedly performed, the surgeon resting satisfied with establishing drainage for the bile by clearing out the gall bladder and cystic duct, thus relieving the patient of the immediate dangers of cholemia. For a time bile pigment can in some of these cases be found in the stools, when calculi are still obstructing the common duct, but sooner or later the occlusion becomes again complete, and the stools become clay-colored. The disappearance of jaundice in an acute case of colic does not, in the vast majority of cases, mean that the stone or stones have passed into the intestines, and that spontaneous cure has resulted. This I find is a very common error. It is well to explain to the patient, that in the majority of cases many different sizes of stones are present in the gall bladder, some of which are too large to escape with the bile. Repeated attacks of jaundice with absolute freedom from it between the attacks is rather indicative of a supply of calculi within the gall bladder. The duration of acute jaundice depends

upon its intensity. In any event it takes several days to clear up. Chronic obstructive jaundice, with attacks of colic, is necessarily incomplete: hence it may last for months or even years without causing death. Repeated acute exacerbations of jaundice engrafted upon a chronic jaundice are indicative of a stone shuttling to and fro in the common or common and hepatic ducts. It is known as ball-valve action. In one of many recent cases, exhibited before the Chicago Medical Society, a stone was plying in the cystic and common ducts, causing colic and jaundice, the latter entirely disappearing between the attacks which gave me a clue to make an accurate diagnosis. The chronic jaundice of gall stone obstruction is characterized by improvements and relapses lasting indefinitely without producing profound cholemia. which is of clinical value in contradistinction to the chronic jaundice due to malignant obstruction of the common duct which almost invariably becomes more and more profound. Clay-colored stools and irregular movements, often of fetid odor, bile pigment in urine, are signs dependent upon the jaundice. The presence of bile in the urine is often the first sign of approaching jaundice.

Itching. Itching is a very troublesome symptom of jaundice. It universally affects the skin, and, if severe, disturbs the patient at night. It is not always present. It obstinately refuses to yield to local applications or drugs. When the jaundice subsides the itching of the skin soon stops.

Enlargement of the Liver. In biliary colic arising from a stone in the cystic or common duct, the liver dullness is often increased. I have seen it extend to the level of the umbilicus. When tender to the touch and somewhat painful on deep respiration, the enlargement of the liver is likely inflammatory. A local perihepatitis near the gall bladder manifested by local pain and friction is present in cholecystitis, and cholangitis. When the liver is enlarged, but not tender, the increased size is evidently due to the enlargement of the intra-hepatic bile ducts with bile.

Enlargement by Distention of the Gall Bladder. This sign is of great frequency and importance. It is present in impaction of a stone in the cystic duct; in dropsy of the gall bladder; in retention cyst; in acute and chronic empyema of the gall bladder; in acute phlegmonous inflammation of the gall bladder; and in

impaction of many gall stones in the gall bladder itself. I have seen the gall bladder enlarged by great fibrous thickening resulting from colon bacillus infection, from which we obtained a pure culture. In acute obstruction of the common duct, I fail to see why the gall bladder does not enlarge, as does the liver. It seems to me, that it must become enlarged, in response to physical laws and its own inherent properties in all cases of acute obstruction of the ducts. The enlargement of the liver in some instances covers over and prevents detection of a distended gall bladder. In chronic impaction of the ducts the gall bladder becomes contracted and tender. It is well to recollect that in cases of chronic jaundice without a history of cholelithiasis, the gall bladder is enlarged and obstruction of the common duct is usually malignant.

Pyrexia. The rise of temperature during biliary colic takes place in about 50 per cent. of cases. The fever begins after the pain and a chill may accompany it. It usually ranges from 99° F., to 101° F., but may reach 103°. The pulse rate is not accelerated in proportion to the rise of temperature, but is often lowered. This "biliary fever" is an enigma. It sometimes exists when no germs are present in the bile. It appears to me that the absorption of biliary constituents may account for it. In support of this view, I wish to refer to a case operated on by me on the 6th of July, 1896, and published in the August number of *Medicine*, 1897. The gall bladder was perforated, by a stone, and the peritoneal cavity was filled with bile. The fever ranged from 99° F. to 100° F., for six days before the operation and it subsided upon washing out the peritoneal cavity and emptying the gall bladder of stones and bile. No germs were found in the bile. The "intermittent hepatic fever" of Charcow is found in chronic cases of gall stone impaction. In the presence of jaundice it is to be distinguished from malaria.. The "chills and fever" occur sometimes with ague-like regularity. The fever is not changed by quinine, the spleen is not enlarged and no parasites are in the blood.

Means of Diagnosis.

1. Evidence and cross-examination of the patient and his friends.
2. Inspection, palpipation, and percussion.
3. Deep prod. Mr. Jordan Lloyd, of Manchester, tersely

describes the value of giving a prod over the gall bladder with the closed fist, and if gall stones are present, considerable pain is caused. It is a procedure of some value.

4. *Ausculation.* By listening over the gall bladder, the friction sound of local peritonitis and perihepatitis is detected, and the extent of recent adhesions defined. During the acme of colic, the gall stones can occasionally be heard striking against each other. I did not believe this until 1889. I had a patient who passed through the hands of "Christian Science Healers' who would not consent to an operation until it was too late to attempt any surgical interference. For twelve years she had suffered from gall stone colic in an intermittent manner and the last fourteen months of her life, persistent jaundice was present. The gall bladder was enormously enlarged and the "rattling of the stones" in it could be heard while standing by the bedside. This peculiar sound was to her mind an omen of nature's effort to break up and melt the stones that they might come away.

5. *Examination of Blood and Urine.* An examination of the blood for leucocytosis may be of value in differentiating cholelithiasis, or of recognizing infection of the gall bladder and ducts as a complication. Examination of the urine very frequently reveals a trace of bile in impaction of the cystic duct, even when there is no jaundice present, so that means is of value in making an early diagnosis of gall stones.

6. *The X-Ray.* The Roentgen ray has not been of very much aid in my cases, but it appears to have been in the hands of others, and it is hoped that this means will become of more value in diagnosing gall stones.

Findings at Operations in My Own Cases. In one case the gall bladder was absent; flexion; retention cyst; dropsy of gall bladder; perforation by pressure of a stone, and abdomen filled with bile; acute phlegmonous (gangrenous) inflammation; empyema; gall bladder obliterated by inflammation, its place occupied by fibrous tissues, in some cases contracted, but in two cases forming a large palpable tumor simulating a new growth; cholecystitis; cholangitis and hepatic abscesses; gall stones dilating gall bladder, cystic, hepatic and common ducts; hydatid cysts in hepatic and common ducts; carcinoma of the gall bladder and ducts; obliteration of cystic duct; common duct containing a stone one inch through and one and a quarter

inches long, and having a play of three and one-half inches in dilated duct; fistula and hernia following operations.

CLINICAL CLASSIFICATION.

1. Non-jaundiced cases. (a) Active; (b) latent.
2. Jaundiced cases, (a) Acute; (b) chrouic.
3. Infected cases. (a) Acute; (b) chronic.
4. Carcinomatous cases.

CLINICAL INDICATION FOR OPERATION.

1. Biliary colic. Repeated attacks.
2. Janndice and colic.
3. Persistent tenderness elicited by (a) hand pressure, (b) finger-tip; (c) prod.
4. Pyrexia with local tenderness.
5. Enlargement with or without history ef cholelithiasis.

Should we operate during an attack? In the vast majority of cases it is not imperative to operate during the attack; at the same time, it is not wise to allow the patient to go on suffering. In a case where operative interference is clearly indicated between the attacks, and if infection is present, the sooner the gall bladder is drained the better, thus obviating the dangers which accompany the infection. On the other hand, if the patient is suffering very severely, the suffering is immediately relieved by opening the gall bladder and removing its contents, and not infrequently impaction of the cystic and common duct is obviated.

Treatment. Puncture of the gall bladder for cholelithiasis has been properly discarded. *Cholecystotomy* has the widest range of any operative procedure for the relief of gall stones. There are just a few things to be remembered about its performance in order to prevent a fistula, and that is. when ths gall bladder is emptied of its contents through an incision in the right rectus muscle, it should be sutured to the inner aspect of the abdominal wall and at the upper angle of the wound. It should not, as we used to do, be sutured to the skin, nor to the lower angle of the wound. It is my practice to drain every gall bladder that I open. There are several reasons for doing this: The first is that germs may be present, and this cannot in most cases be ascertained while operating. Second, catarrhal, ulcerative and inflamed conditions may also be present, which are best treated by drainage. The traumatism caused by the operator to

the gall bladder itself, while removing gall stones from it, produces a certain amount of hemorrhage and oozing of blood serum which had better be drained away. The drainage tube is protected by gauze, and care is taken that it does not engage the cystic duct. If the end of the tube is grasped by the duct, the patient suffers from colic immediately after the operation. The operation of cholecystotomy by two stages seems to me quite uncalled for. It is not suitable for the most difficult cases of impacted gall stones, where deep jaundice or infection is present, and for the easy cases, I can see no object in delaying the opening of the gall bladder at once.

Cholecystopexy, that is, where no drainage is used, but where the gall bladder is closed and sutured to the abdominal wound. has the great objection that the gall bladder may become overdistended on account of the cystic and common ducts not giving sufficient drainage. The only class of cases where any excuse for its performance exists is where there has been absolutely no obstruction in the cystic and common ducts, and where the contents of the bladder is free from germs, but inasmuch as this cannot be always ascertained while operating, it is better to drain the gall bladder.

Cholecystendysis, or the so-called ideal cholecystotomy, that is, the complete closure of the gall bladder by sutures and dropping it back, is, in my opinion, a very dangerous procedure. I am sure that some of those cases that prove fatal after this procedure would have recovered had the gall bladder been drained.

Cholecystenterostomy is a communication between the gall bladder and the duodenum, jejunum, or colon. The more gall bladder surgery we do, the less indications we find for this procedure. The indication for which this operation was devised that is, the cure of biliary fistula, is now obviated by the proper performance of cholecystotomy. Should, however, the common duct be completely obstructed by cicatrization, and a permanent biliary fistula thereby be inevitable, then cholecystenterostomy should be performed. But I have yet to meet such a case.

Cholecystectomy. The removal of the gall bladder is indicated in primary carcinoma of that viscus, and when it is perforated in many places by a phlegmonous (gangrenous) inflammation. It is not necessary to remove the gall bladder for retention cysts, because Drs. Mayo, of Rochester, Minnesota, have in several

cases simply removed the mucous membrane of the gall bladder, which cured the fistula following the drainage of the retention cyst. This procedure is so simple and commendable that it is not necessary to perform a graver operation.

Choledocholithotomy is the removal of a stone or stones from the common duct. It has been performed in three different ways: First, the ordinary way, getting at the duct from the right of the duodenum, known as ths external route. The second is exposing the duct from the left of the duodenum, and the third method is the transduodenal route, The second of these has been properly discarded. So much has been written and said about choledocholithotomy that it is unnecessary to repeat it here, and the transduodenal route is only suitable when the stone is impacted in the ampulla of Vater. Stones in any other part of the common duct can be removed by exposing the duct to the right of the duodenum. Suturing of the common duct, after the removal of a stone or stones from it, is not at all necessary. I have demonstrated to my own satisfaction that the duct will close within three or four weeks, and all that is required is to have Morrison's pouch to the opening in the duct completely drained. The drainage tube is removed when no germs are found in the bile that escapes.

J. L. STEWART, M. D.

SOME THINGS THE LAITY OUGHT TO KNOW.*

By James L. Stewart, M. D.

Member of the South Dakota State Medical Society. Member of the Sioux Valley Medical Association. Member of the American Medical Association.

There has been much discussion of late regarding how the common people could be educated in order that they might protect themselves against the impositions of quacks. One thing is self evident that in order to protect themselves they should know what a quack is. Quacks appear in so many different forms that it is impossible to give a deffinition that will cover all cases. The nearest that we can come to it, probably, is to say that a quack is a professed healer of the sick, who is grossly ignorant or who is dishonest in any way in his methods of obtaining or treating patients.

Of course, it goes without saying, that a physician should have an education equal to that of the average physician in the location where he is in practice. And, as it is necessary to have some standard, we are justified in saying that he ought to be a graduate of one of our best medical schools, in fact, one that comes up to the requirements of the Association of American Medical Colleges. In order to be reputable he must then obtain a license from the State Board, if one exists in the state where he expects to reside, secure a location and begin to practice. People should know this and it should be their privilege, as well as a duty to themselves, to ask the new doctor of their town to show his credentials before they employ him. They should not take it for granted that he is all right because he hangs out a sign and presumes to practice.

When he gets a patient, if he is a regular, unrestricted physician, he will do what in his judgment is for the benefit of that patient, no matter where his knowledge came from or by whom it was first taught or used. The American code of ethics is very clear on this point. It declares that the welfare of the patient is paramount to every other consideration. If he does not place the welfare of his patient above every other considera-

*Read before the South Dakota State Medical Society at Aberdeen, S. D., June 14, 1900, and printed at the request of the members of the society.

tion he is violating the trust placed in him and is dishonest and therefore a quack or irregular.

But, says some one, are there only two classes of physicians?

We answer, yes. There are only two grand divisions, i. e., regular and irregular. But where are the alopaths, homœpaths, etc.? There is no such word as alopath except as it is used by certain irregulars, with an intent to injure the regular or honest physicians. Irregulars are divided into homœpaths, hydropaths, electropaths, osteopaths, ecletics, etc. But may a man not be an irregular graduate and at the same time be an honest physician? Yes, when he drops his creed and does what is for the benefit of his patients, regardless of any 'pathy or 'ism, he is an honest or regular physician; providing he does not deceive his patients by telling them that he adheres to a creed which makes him superior to others.

The regular profession, instead of being narrowed by some restricting creed, is so broad that it includes not only all that is known, but all that is knowable, relative to the relieving or curing of disease; and when some one claims that one of the creeds is greater than the regular profession, the laity should be able to reason that a part cannot be greater than the whole.

Some of the best and most honest physicians in the state today are ecletic graduates. They have dropped their creed and therefore are shown every possible consideration at the hands of the regular profession. The homœpathic graduate is shown the same consideration just in proportion as he becomes honest and ceases to advertise himself as a homœpath.

What does he mean when he says, "I am a homœpath?" He means that he is a homœpath and therefore good; while the other fellow is *not* a homœpath and therefore bad. He is playing the pharasee and thanking the Lord (before the public) that he is not as other men are.

Many homœpaths are successful physicians, but they are successful not because they are homœpaths, but because they have good judgment and when they treat a patient throw aside all creed and do what is for the benefit of their patient, no matter where the knowledge came from.

To prove that the homœpath is well used by the regulars we have only to point to a certain homœpathic graduate who came to this society and asked admission. He told us that he had

dropped his secterianism and claimed to be a simple practitioner of the healing art, like the rest of us, and we took him in. We will do the same by any of the rest of them if they will apply in the same spirit.

There is practically no difference between the honest regular graduate and the honest irregular graduate, providing their educational advantages have been equal and they are equally gifted in the exercise of judgment. The irregulars however keep up the fight before the public for advertising purposes. Their chief mode of attack is to tear down honest men in order to build themselves up. They terrorize the laity by telling them how bad the regular profession is and how dangerous it is to employ one of them in the hope that they, who have little or no merit to commend themselves, may in some way build on the ruins that they thus make. Every physician should build up his practice on its own merits and when he seeks to advertise himself in any other way he is dishonest or irregular. When a man builds up a very large practice in a very short time he is not building that practice up upon its merits. The most disreputable man is the man who is a regular graduate and yet is irregular in his practice.

All irregularities are for the purpose of gain, whether it be for immediate gain, or advertising ones self.

Any physician had rather enjoy the respect of his brothers in the profession than that of the laity, whom we all know are not able to judge of a physician from a standpoint that is in any degree just. Physicians are the only ones capable of judging of the character of physicians, and when a man is well spoken of by other physicians who know him, he is most likely a good man. Again any man, who cannot obtain a membership in a medical society, or cannot make his voice heard in their discussions of medical subjects, is not worthy the ear of the public. The irregular says, "Let the people judge" because he knows that at least 95 per cent. of them are not able to judge of his arguments, and most of them will be influenced in his favor because he flatters them by appealing to their judgment. He usually starts out with some self evident fact, but draws false conclusions therefrom. His success in deceiving the people is measured by his ability to blend truth with falsehood.

Why do certain irregulars claim to be so superior to others

that they cannot consult with anyone? It is generally because they fear to meet a brother lest their ignorance or rascality be exposed. Some of them even claim to have certain secret remedies that they do not wish to divulge lest others should be able to perform the same cures. How perfectly outrageous! In the first place they have nothing to divulge, but if they had, would any honest physician withhold from a brother anything that might be of benefit to mankind? No. It is our duty to scatter broadcast among the profession anything and everything that we think will relieve human suffering or cure disease. The quack will make money out of anything that he can make the people believe is good, whether it is good or not, but the regular will give it to the profession, free of charge, and say to them, if you believe it is good, take it and use it. I hope it will be of benefit to humanity. This is one thing that tends to make the regular physician a Christian. I do not wish to preach a sermon, but did you ever think that the regular follows very closely the example of Christ, while the irregular follows closely the example of satan.

The old serpent is always trying to pose as Christ, especially when he has some particular devilish plan in mind. He comes to town and advertises, "The Great Physician now is here; come and be healed by this wonderful man." And if you take notice you will see some of the most religious people going to him, forgetting that there never had been but one Great Physician, who could cure all diseases, and losing sight entirely of the passage which says, "Many shall come in my name and shall say, lo here is Christ and lo there is Christ, and shall deceive many, but go not after them."

Dr. Complete Fakir usually travels, but sometimes he is content with staying in one place and advertising largely either in the papers or by sending men through the country with some kind of canvassing outfit whose principal business is to tell of the wonderful things done by the great and only Dr. Cure all.

Dr. Pretender as a rule gets only two classes of patients, those who have incurable diseases and those who have imaginary troubles. Those with imaginary troubles are sometimes benefited by the hypnotic effect of his treatment. Those with incurable diseases are often buoyed up by his promises for a short time, but in the end receive no benefit and are minus the

amount they have paid him, We do not wonder that the incurable are anxious for a cure, but why do they disregard the statements of well known, honest physicians who tell them that they are incurable and advise them not to spend money on any supposed cure? But they say Dr. Cure All gave us a guarantee to cure and how can we lose anything? They ought to know that in the first place such a man usually has some sharp dodge to collect the money and evade responsibility, besides when he guarntees to cure he is again apeing his Satanic majesty. The regular is not able to guarantee, because he is a Christian and realizes that there is a higher power which sometimes interferes with his plans. All that he can guarantee is to use his best judgment and ability in the light of modern science.

Dr. Imposter is always ready to furnish a list of testimonials from those whom he claims to have cured, as a sign of his great power over disease (most of them entirely false or gotten by some rascality). The regular cannot furnish these signs because "an evil eye adulterous generation seeketh after sign and there shall be no sign be given it."

According to the Holy Writ the arch fiend entered the first family of which we have any record and used nearly the same words that his representatives use today when they are talking to an incurable patient: "Ye shall not surely die, for God doth know that in the day that ye eat thereof then your eyes shall be opened and ye shall be as gods knowing good from evil." To-day his representatives says, "You shall not die, for I, even I, the great and only Dr. Foolum, will take you under my care. I will not only cure you but will teach you valuable lessons in hygiene so that you shall know how to keep well. The regular does not like this because he will lose by it but I am your friend and am trying to protect you against his tyranny. I will give you life and wisdom."

Not only is the above true but Satan went into the first family unbidden. The regular never goes unbidden neither does he go if another respectable man is in charge of the case, but how often does he go to his case and find that Dr. Satan has been there *under guise of trying to do good* and has done all in his power to influence the family against the physician in charge. The same thing that the Prince of Darkness did in the first family.

We notice that the woman gave to her husband and he did eat and afterwards they tried to hide themselves from God, (*the one set at naught*). Today, when a person has consulted a quack they will do all in their power to influence others to do the same and after the first their family physician (*the one set at naught*), knows about it, as when they try to avoid him.

When Dr. Blow Hard or Whistle Wind can make a patient believe that he has benefited or cured him, he straightway sends him out to publish it, while the regular will if possible prevent a cure from going into print. He is following the example of the Great Physician when he charged the one whom he had healed "to tell no man."

Irregular journals are always abusing the regulars, while the regular journals say little or nothing about them. It is fair to say that there is as much abuse of the regulars in one issue of an ordinary irregular journal as can be found of the irregulars in all the irregular journals in the United States for one year. In fact the regular takes the position of him who "when he was reviled, reviled not again." There are times, however, when we would fain make "a scourge of small cords and drive out the money changers," but as often as we do we are condemned as medical monopolists. poisoners, murderers, and even alopaths. The enemy well knowing that while vile names are not arguments they have an effect on the public. They appeal to the public, because they know the public sentiment is very cruel, and if it is well handled can be made to do almost anything. It was public sentiment that crucified the Great Physician. The evil one knows this and when he is interfered with, at once makes use of the lay press, heaping all kinds of abuse on the regular or honest physician, calling upon the people to rally around his standard, which they usually do. The regular, following the example of the Great Master, usually answers "not a word."

We read that the leaders in the church were the worst enemies of the Great Physician, and so it sometimes seems that the clergy of today are the worst enemies to the progress of scientific medicine. Yet science is the voice of God. While there are noteworthy exceptions, the old adage is never-the-less true, that "charlatanism hobbles on two crutches the tattle of women and the certificate of clergymen." Does it not seem like

a paradox to say that the American clergy are in opposition to the men who examplify the most practical type of Christianity to be found in the world today? If any one doubts that the regular physician stands in that position, let him read Ian Maclaren's Doctor of the Old School and be convinced. A Christian is a follower of Christ. How can a man follow the example of Christ without being a Christian to the extent that he follows that example?

We do not mean that the clergy are wilfully dishonest, but they do fall very readily into the traps set by quacks, and assist those individuals very materially in their work of deceiving the public.

Again, religious newspapers contain some of the most outrageous medical advertisements to be found anywhere. How can religious papers do this when they ought to know that *all* medical advertisements (there are no exceptions) are divided into three classes, "those that are false, those that are false and filthy, those that are false, filthy and criminal?"

Again, the laity ought to know that medical laws protect the public and not the profession. Quacks do not injure the profession financially, but we are opposed to them on principle.

When the irregular says to the regular: "From a business standpoint you have no reason to complain, I am not injuring your business," he tells the truth. But when he says: "As long as I am not injuring you I would like to have you let me alone" he is asking us to stand by and see the people robbed. Why do not the people assert their rights and make laws to protect themselves, instead of opposing the laws that regulars have tried to pass in their behalf?

There are many other things that the laity ought to know, but time prevents our mentioning them. And after all it seems a thankless task to educate the people along these lines. The more we try to deliver them from the snare of the fowler, the more skilfully does the fowler prepare his snare. Yet, is it not our duty to try to educate them on certain principles that will enable them to distinguish between an honest physician and a pretender?

LETTER FROM ECUADOR.

RALPH WHITEHEAD, M. D.

My headquarters are at Chihuacoy, but at present I am at Victoria. The doctor who is stationed here is away at Durand with the contracting engineer, so I am subbing for him. Our business here is to look after the welfare of the engineering corps who are laying out and locating a roilroad. They are a fine set of companionable men; highly educated and traveled. We have nothing to do with the contractors and laborers, who employ their own doctors.

I have four camps to look after, stationed at places that answer to the beautiful names of Bucay, Narangapati, Chihuacoy and Sigoicambi, covering a distance of sixteen miles, so that I have to travel anywhere from ten to thirty miles a day on mule back This is quite a new experience for me. The critter is not an "auto" mule either. Considering the amount of energy required to propel the mule, it did not tire me nearly so much as I expected it would. While I was yet a tenderfoot I rode the whole length of the line, stopping over night at the upper end without being the least sore.

Taking into consideration the steep ascents and descents along the route, I can well believe that old revolutionary story of Genl. Putnam riding down a flight of steps to make his escape. Some of the trails I have to ride up and down are steeper than any flight of steps I ever saw. It is fortunate the mule is experienced if I am not.

The line of railroad from Chimberooy, terminus, which, if your readers will examine a map of Ecuador, they will find is on the Chan Chan river. They will probably find it marked Yuca. The railroad follows this river up on a plateau between the two ranges of mountains rising 10,000 feet in sixty miles, which gives it a very steep grade. There are seven terraces rising in succession from the river. From appearances it would seem there had been a sort of whirlpool here at one time which has made these terraces. The headquarters camp is placed on the fifth terrace and fronts the Chimbro river just below.

The view from here is magnificent. The Andes rise up

behind, but are usually hidden by clouds. It is seldom hot and the nights fairly cool, so that one wants blankets to sleep under. The extreme dampness is the great drawback. We are shrouded in clouds every morning until the sun comes out. Then these go trailing up the mountain in great sheets of mist. The vegetation is superb. There are millions of orchids around; bamboos grow like grass. There are also rubber trees, oranges, bananas, coffee, cocoa, and all sorts of flowering trees mixed into a jungle mass, over run with a mass of creeping vines and parasites, hanging at heights like lace curtains swinging on the trees. The bamboo here grows to an immense size. The stock is as thick as a leg, and stretches up into the air sixty or seventy feet high, the tops falling into a graceful curve, and appears, when looking down on them from a height above, like the brobdegnagian grass ready for harvest.

When people want a drink in this country they cut into a bamboo or the large plants. The spaces between each joint hold about a pint of the purest kind of water.

The houses are nicely built of bamboo, set up about six feet from the ground. They have no glass in the windows, only shutters. The ventilation is as free as if it were outside air. My house at Chihuacoy is built of wild sugar cane except the frame work which supports it.

Sugar cane is very abundant. Also a good quality of white rubber grows all through this section. Almost anything under the sun may be or is produced here; in the lower valley, anything tropical; on the mountain sides the grains and products of the temperate regions; thence up to the everlasting snows of the Andes.

THE PLEXUS

THE OFFICIAL ORGAN OF
THE COLLEGE OF PHYSICIANS AND SURGEONS
MEDICAL DEPARTMENT
UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.
H. C. WADDLE, '03, Editor-in-Chief.
W. T. ECKLEY, M. D., D. N. EISENDRATH, M. D.,
W. A. EVANS, M. D., A. GEHRMANN, M. D.,
Associate Editors. L. HARRISON METTLER, M. D.
Local Editor, L. H. S. FRECHTLING, '03

Class Editors:

C. W. BURT, '01, W. R. FRENCH, 02., R. L. ELDREDGE, '03
M. R. MARTIN, '04.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. COATES
Alumni Editor, DR. C. C. O'BYRNE, '94. Clinical Department, JOS. ZABOKRTSKY, '01
Athletic " R. C. CUPLER '01 Library Department. GRACE W. BRYANT.

Advertising Solicitor, GEO. E. ROSENTHAL, '02.
Publisher, - - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE**, 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers willnot hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

At a recent faculty meeting the following changes and appointments were made. Dr. T. B. Wiggins was appointed to the Microscopical and Chemical Diagnosis. Drs. Annabel Holmes, chair of A. W. Stillians, and S. Jakubowski were appointed to Adjunct Professorships in the same department. Dr. E. G. Earle, Professor of Histology and Microscopy was appointed Adjunct Professor of practice of medicine; Dr. E. H. Lee was appointed Adjunct Professor of Clinical Surgery; Dr. Sanger Brown wa

given the chair of Adjunct Professor of Medicine and Dr. F. C. Zapffe received the chair of Histology and Microscopy.

These appointments come as merited rewards to the recipients and the student body is to be congratulated upon its new instructors.

Dr. C. C. O'Byrne, one of the most popular and kindly of men will continue as associate in Pathology.

Dr. Earle will give Histology during the winter term. Dr. Sanger Brown taking Dr. O'Byrne's place in Junior medicine.

It is probable that the inter-term vacation of eight days will be omitted next year, school closing at a correspondingly earlier period, and idea that meets with general approval among the students.

***

The PLEXUS presnts, this month, a leading article by Alexander Hugh Ferguson, M. D., C. M. Professor of Surgery in the College of Physicians and Surgeons. Dr. Ferguson is by birth a Canadian and a graduate of Toronto University and Trinity Medical School. He received post graduate work in New York, Glasgow, London and Berlin, where he took a thorough course in Bacteriology under the celebrated Prof. Koch.

Dr. Ferguson began practicing in Buffalo, N. Y., in 1882. He went to Winnepeg, Canada, where he took an active part in founding the Manitoba Medical College which has had a phenomenal success. He held the Professorship of Surgery in this college and a number of important positions. He was a member of the staff of a number of Canadian institutions and enjoyed the respect and confidence of both the profession and the people.

On June 1, 1894, Dr. Ferguson accepted the chair of Surgery in the Chicago Post-Graduate Medical School and Hospital. Since coming to Chicago his services have been in great demand and he has gained a wide reputation.

His work of "Hydatids of the Liver" has been the most extensive of any man in America and was instrumental in first bringing him into notice.

It has been as a teacher of surgery and as an operator that Dr. Ferguson has gained his wide reputation. He has opened the abdomen over a thousand times, has performed many difficult operations and has been extremely successful in his work.

The doctor has contributed extensively to medical literature.

Clinical Department.

Prof. Steele's clinic Jan. 5, 1901.

CASE I. Mr. C—— age 38, occupation farmer. Nativity German.

Family History. Mother died at age 57 of strangulated hernia. Father alive and well, also six brothers and sisters.

Previous History. Had diseases of childhood. No other disease.

Present Trouble. About fifteen months ago while lifting a hay-rack from a wagon he felt something give away in left inguinal region. Pain was severe at the time. At present there is a tumor about the size of an egg, which disappears on slight manipulation when patient is in recumbent position. There is an impulse on coughing. This tumor has caused but little discomfort since the initial pain. Tumor has never been irreducable.

Diagnosis. Left inguinal hernia.

Operation. Surgical preparation of patient. Incision three inches in length over the tumor down to the inguinal canal and to the internal inguinal ring. The edges of wound were retracted, the cord and hernial sac were lifted up and sac separated from the cord. Sac was opened at distal end and explored to make certain that no portion of abdominal viscera remained within it. The sac was ligated at the neck and cut off one-half inch to the distal side of the cat-gut ligature and the stump allow to drop back. The transversalis and internal oblique were sutured to the under surface of Poupart's ligament underneath the cord. This forms the posterior wall of the new canal. The fascia of external oblique is sutured to the outer surface of Poupart's ligament, thus forming new canal. Skin was closed with interrupted suture of cat-gut. Wound dressed.

On Jan. 12th, patient was brought before the class to be redressed. Wound healed by primary union external or cutaneous sutures were removed and wound redressed.

CASE II. Same clinic.

Miss H. W—— age 9, occupation school girl. Nativity German.

Family History. Father and mother alive and well. Two sisters died in infancy.

Personal History. Had measels four years ago. Whooping cough last July and August.

Present Trouble. Last August while running patient fell, striking her left leg just below the knee, causing an abrasion which healed readily. About two weeks after the fall, she came home from school one evening complaining of pain at point of injury. She was unable to sleep on account of the severe pain which grew worse until the sixth day, when she was operated on. An incision was made and a large quantity of pus escaped. The wound healed in a few days. Three weeks after operation pus escaped spontaneously from a point just above the line of inversion. Six weeks ago and again two weeks ago the bone was curetted. At the present time there is a swelling below the wound, which fluctuates.

Diagnosis. Osteo-myelitis of tibia.

Operation. Surgical preparation. Incision over anterior surface of tibia about five inches in length; a large amount of pus escaped. The tibia was found to be enlarged. The anterior surface was chiseled through and a sequestrum removed which was about four inches in length. The wound was dusted with iodoform, packed with iodoform gauze. Leg was dressed with aseptic dressing.

Alumni Department.

'83. R. Curtis has removed from Union, Ill., to 95 Evanston Ave., Chicago.

'86. H. L. Tillotson cor. Wentworth Ave. and 63rd St., Chicago.

'93. A. B. Spach 6747 Harvard Ave. Chicago.

'93. W. F. Fee write the PLEXUS as follows. I am always glad to get the PLEXUS for through its medium I hear from my Alma Mater and incidentally from some of my class mates, and I am jealous of the good name of the P. &. S. aud am indeed glad to see it prosper. I myself am hammering along in the "noble art of healing." and incidentally chasing the elusive dollar.

'95. M. Staller is enjoying a very large practice at 631 Catharine St. Philadelphia Pa. He is surgeon at Mt. Sinai Hospital and assistant in Polyclinic.

'95. C. H. Le Duc has moved from Danbury, Ia,, to Breda, Ia.

'98. George Rubin is spending some weeks in Berlin, Prussia attending the clinics there.

'99. M. A. Reasoner visited the college recently. He is attending to an extensive practice in Morrisonville, Ill,

'00. V. F. Masilko is located at 631 Center Ave., Chicago.

'00. W. R. McCray, who is located at Marble Rock, Ia., renewed acquaintances around the college.

'00. E. P. Hummel is located at Dysart, Ia. The doctor was married recently to Miss Clementine Fuller of La Porte, Ia.

'00. W. E. Patterson is at Greene, Ia., and is prospering.

'00 We clip the following item from the Pekin, Ill., *Daily Post*: Dr. C. G. Muehlmann has been named as a member of the pension examining board of this county, the appointment being secured on the recommendation of Congressman Graff. Dr. Muehlmann takes the place made vacant by the removal of Dr. Calvert to Dwight. The appointment of Dr. Muehlmann is eminently satisfactory and is a merited recognition of an able and popular physician, who has risen rapidly in his professian. We

extend congratulations. The Plexus extends the doctor its best wishes for his further preferment.

'00. S. M. B. Smith has moved from Wausaw, Wis. to Crandon, Wis.

ATHLETICS.

Prospects for a brilliant baseball season was never better than at present, games with many of the leading colleges have been scheduled, first on the list comes the University of Chicago (April 6th), while anticipating that the many hard dates will necessitate P. & S. turning out a strong team, it is fair to say that we are always equal to the occasion, the day would be indeed a cold one when P. & S. would not show championship form.

Many, who participated in games played last year, are again ready to don the mit and juggle the sphere, among them are: Bothne, Lannon, Lockwood, Sage, Major and Sawtelle. Pitcher Harry Mason has finished his course and will not return, the doctor's ability as a ball player and his services to P. & S. as an athlete were invaluable.

The annual election of officers was held January 6th Richard Lockwood was elected manager and R. C. Cupler captain, it is hoped that many aspirants for positions on the 1901 team will hand their names to manager Lockwood.

LIBRARY NOTES.

GRACE W. BRYANT, Librarian.

The following report for the year 1900, may prove of interest to the friends of the library.

The accessions by gifts, purchase, and exchange, the past year, number 1,186 volumes, 9,877 journals, 951 pamphlets. The total number of bound volumes in library, 4,432.

The most important gifts of the year have been: Mrs. C. A. Logan, library of her late husband, 490 volumes; Dr. W. E. Quine, complete sets of the Transactions of the London Pathological Society, Index catalogue of the Surgeon-General's Library, Johns Hospital Reports, many new text-books, and subscriptions to seventeen current periodicals; Dr. C. W. Wood, over 200 volumes of journals; Dr. H. T. Byford, 162 volumes, and Dr. W. S. Christopher, 20 volumes, and about 6,000 journals.

The files of medical journals have received many additions; 435 volumes have been completed and bound during the year. Through our system of exchange, we have received 143 volumes and about 1,500 journals. 75 current journals are on file in the library.

LIST OF DONORS, 1900.

American Dermatological Society, 1 volume.
American Laryngological Association, 1 volume.
Association Medical Librarians, 14 volumes.
Bartlett, Dr. John, 1 pamphlet.
Bausch & Lomb Co., 3 volumes.
Beedy, Dr. L. L., 1 volume.
Brumback, Dr. A. H. 2 volumes.
Butler, Dr. G. F., 400 journals.
Byford, Dr. H. T., 162 volumes, 32 journals.
Cheney, Dr. F. S., 90 journals.
Chicago Health, Dep't of, 1 volume.
Chicago Pathological Society, 1 volume.
Christopher, Dr. W. S., 20 volumes, 6,000 journals, 200 pamphlets.
Class of 1903 P. & S., 1 volume.
Colorado State Medical Society, 1 volume.

Earle, Dr. F. B., 4 volumes.
Eisendrath, Dr. D. M., 16 volumes, 535 journals.
Ferguson, Dr. A. H., 1 volume.
Hardie, Dr. T. M., 27 volumes, 32 journals, 25 pamphlets.
Heineck, Dr. P. A., 4 pamphlets.
Lemke, Dr. A. F., 1 pamphlet.
Logan, Mrs. C. A., 490 volumes, 30 journals.
Louisana State Medical Society, 1 volume.
Michigan State Board of Health, 1 volume.
Milwaukee, Health, Dep't of, 1 volume.
Mitchell, Dr. L. J., 8 volumes.
Mulford Co., 6 photographs.
Miller, Dr. W. E., 409 journals.
Milnamow, Dr. J. T., 1 volume, 4 journals.
Murphy, Dr. J. B., 95 journals.
Newman, Dr. H. P., 387 journals.
New Jersey, State, Board of Health, 1 volume.
New York, University of State of, 2 volumes, 1 journal.
New York Juvenile Asylum, 1 pamphlet.
New York Obstetrical Society, 1 volume.
Quine, Dr. W. E., 150 volumes, 100 journals, 500 pamphlets.
Saunders, W. B., 1 volume.
Treadwell Library, Boston, 1 volume.
U. S. Agriculture, Dep't of, 1 volume.
U. S. Educational Bureau of, 1 volume.
University of Buffalo, N. Y., 1 volume.
Wood, Dr. C. A.,, 210 volumes.
Yarbrough, C. C., 1 volume.

In addition to the above list, through the kindness of the publishers, we receive free over fifty of our current periodicals.

The following articles by members of the faculty have been noted in the journals:

Dr. W. A. Evans, Repair after intestinal resection. Jour. A. M. A., Dec. 8, 1900.

Dr. Bayard Holmes, The opportunity of the smaller medical colleges. Amer. Acad. of Med. Dec. 1900.

Dr. G. F. Lydston, Further remarks on the bisection of fees, surgical drummers and drumming surgeons. Phil. Med. Jour. Dec. 8, 1900.

Dr. W. A. Pusey, Lupus healed with Roentgen ray. Jour. A. M. A, Dec. 8, 1900.

Dr. C. A. Wood, Massage of the eyeball. A. M. A., Nov. 17, 1900.

SENIOR SOCIAL FUNCTION.

Upon the ninth day of February, 1847. our Honored Dean, Prof. Wm. E. Quine was born. Just how much mirth and merriment the event created at that time, we do not know, it was long ago and far away. Upon the ninth of February 1901 our Dean will be born again, again to the classes of our inststution, for a grand reception and ball will be given in the honor of this worthy gentleman, upon that occasion, by the Senior class.

Owing to some error upon the part of the calendar maker, February 9th, falls upon a Saturday, therefore not being able to commence upon the day of birth, it has been decided to hold the ball upon Friday evening the 8th inst, and to awake to the coming of the new day, the day which marks such an important point in the history of our Dean.

At a recent meeting of the Senior class it was decided to give an annual ball, the first, by the way, in the history of P. & S. the day chosen being the one named. A committee having been appointed, the Dean's permission was asked and received, the committee then advanced with preparations, until now every thing is in readiness.

The Junior, Sophomore and Freshman classes were each invited to participate, while the wives of faculty members will act as patronesses. In making these arrangements the Seinors look forward to a successful outcome and hope to make this function one of the finest in P. & S.'s history.

SENIOR NOTES.

Of all national holidays Christmas is the most sacred the world over. All nationalities seem to realize this and join in making it a glorious and grand old holiday. Many are the hearts who look foward with pleasure and anxiety from the last Christmas, to the coming of the next. Who appreciates more the fnll value of the Christmas holidays than the student and teacher who have been striving together and endeavoring to solve some

of the mysteries and developments of science? Then it is that the student turns from the type blurred pages of books to the printed pages of nature all about him, not entertaining for a moment a single thought of the work piled up for him the succeeding term. It is a time of recuperation, recreation. jolification and socialization (if I may use the expression) The senior class realized that this was their last vacation (sad but true) consequently many seized the opportunity to utilize it as best they knew how, for next Christmas we all hope to be M. D's out in active work striving to help some poor soul(accent the poor) to climb the ladder which leads to the highest attainment of life, viz: health.

Dr. Christopher when ask by some inquisitive mind to relate some convenient method for collecting the urine of a baby for the purpose of examination, related an occurance which came in the path of a fellow practitioner. This brother physician had been called to visit a sick babe, and before leaving the home, told the mother to collect some urine from the babe before his succeediug visit. The mother immediately asked the doctor how she should collect it? It being the first time the doctor had had the question asked, he was for a moment perplexed for a answer. Finally he says: "I don't know—I know how to collect a cat's urine—Put the cat in a basket and the basket in a wash-boiler." Evidently there are tricks in all trades.

Mrs. Carpenter has had the good fortune to receive an appointment as sole interne in Francis Willard's Hospital, of this city. This certainly is an excellent opportunity for her, and the members of the class shall wish her the best of success in all of her medical adventures. Like training every member of the class would profit exceedingly.

O. M. Rhodes spent the Christmas holidays in Boston, representing Eta Chapter at the national convention of Alpha Kappa Kappa fraternity.

Heintz had very congenial company on his way home. One must indeed consider himself fortunate to be able to travel with a "Freeman" through barbarious Missouri.

Fortunate is he whose good reputation preceeds him. Lorch had a case of intestinal obstruction, two cases of appendicitis, a

case of typhoid and one of pneumonia, all waiting to be treated when he entered his little town in Wisconsin, Christmas.

Jacobs had the septum of his nose straightened just before the holidays. On being anesthetized he was implored by his friends to be careful of his language, were he to become talkative, as there were many listening ears. But Jacobs swore as only a man from Kansas can.

G. S. Taylor, a former member of our class, was a visitor at Dr. Newman's clinic last Thursday. Mr. Taylor is now entitled to be accosted as doctor, having received a diploma from a college of this city.

MATERNITY CLINIC.

Messrs. Sherwood and Lanting were down at the maternity hospital recently serving their term, and while there they were fortunate in seeing the only placenta praevia case which has occurred in the service this year, The case being of interest to all members of the class, I asked that they hand in a report for publication. It is through their kindness we are able to read a history of the case from beginning to end. "Upon arriving at the bedside about 10:30, Jan. 4th, we found a woman with a pulse rate of 96, and claiming to be at full term, having no labor pains but was flowing quite freely. She was the mother of six children; previous labors had been slow but normal except in this last one, in wnich case forceps were used."

The above findings proved that a rare complication—placenta praevia, which according to statistics—occurs about once in 1000 labors—was at hand. The usual modes of delivery in such cases being Podalic Version, and as the case, as a whole, would be of unusual interest to the class, the patient being none the worse for a brief delay of delivery or harmed in any way by transfering her to the West Side Horpital, was asked and urged by Dr. Yarros to consent. It was Dr. Yarros earnest desire that the entire class might witness the rare case; but of no avail owing to the patient's profound dread of being an inmate of a hospital.

External examination—firm, regular mass upon left side of mother, irregular extremities upon right side—fœtal heart located upon left side a little above the umbilicus-placental bruit upon right side, low down toward the median line.

Vaginal examination—os rather high, dilated to admit two

fingers, within os the placenta could be plainly felt. The condition of the patient remained about the same until early morning, by which time the hemorrhage had ceased.

7 A. M., pulse 92—examination showed the os somewhat lower, dilated to admit three fingers. Head seemed to be engaging, the placenta could still be felt on upper and right hand side. This condition remained unchanged throughout the day, patient not having any labor pains.

4 P. M., pulse 100—slight hemorrhage. Examination revealed the fact that the head had completely receded and that the placenta was again covering the os.

5 P. M., Prof. Earle arrived and patient was placed upon a table and Dr. Yarros performed podalic version, delivering a 6½ pound girl baby. Four days later, mother and child doing well.

JUNIOR NOTES.

Get vaccinated and have a sore arm and you will come to class early and stay late and avoid the rush. We will then have no more curtain lectures about the tardy ones.

Gulick is no longer champion rough-houser since Heller joined the class.

Gates locates the meibomian glands in the uterus. Sabin informs the professor that they are in the eyelids. Smith whispers to the editor, did you get that item? No—what? Why Sabin locates the meibomian glands in the eyelids. Question Who is the joke on?

He is no longer plain Reuben but we must now call him Dr Haynes the gynæcologist.

We learned before Christmas why Smith left home. But really George she is handsome.

New Century Findings:

White men die more often than colored men. P. D. W.

Carbuncles are due to infection by tetanus bacillus. B. H.

Swipe out the cavity with carbolic acid. M. B.

Professor—How would you treat tuberculosis of the ends of long bones?

Clark—The long bones of the feet or what? Next.

Coates was very sick during the holidays, but is now in school again

Dr. Boo has left the class and there are a few who have not recovered nor returned from their Christmas vacation.

Jan. 9th Merki assisted Dr. Lee. During the operation Dr. Lee remarked that the operation had been done without assistance as he had just demonstrated.

Did you hear about Beebe's obstetrical case?

SOPHOMORE NOTES.

The new century had an auspicious beginning for some of our members, if recent actions in class room are any criterion. Those hair mussing matches are highly entertaining and undoubtedly have a stimulating effect on the cerebral functions of the participants. Now that we have been informed of the probable time limitations placed upon our chances of learning certain things, by the professor who said it would be this century, if ever, it is not to be wondered at that all possible methods are used by the students to attain greater mental results. The century has many possibilities in store for us but the professor omitted to mention at what particular period in that hundred years he would relate to the class the story, of which we have already had an intimation. We all hope it will be early in the Twentieth.

There are a few other things we could wish to see realized during the first 365 days of the century. Among them might be mentioned:

A finely equipped and well ventilated College building.

An amphitheatre snfficiently lighted after dark.

Lockers large enough to hold a pair of cuffs.

Laboratory desks that can be opened only by the lessee.

Less moisture on the floors of amphitheatres and laboratories from whatever source.

Seats in the amphitheatres assigned at time of matriculation.

Suitable lavatory apparatus in the dissecting room.

A certain member of the Sophomore class is laying up for himself all sorts of trouble if he persists in practises credited to him. It is said one of the freshmen class, while in the dissecting room recently, lost a ring which he had placed upon the table where he had been working. He absented from the table mementarily and when he returned the ring had disappeared. A notice placed upon the bulletin board offering a reward of two

an a half dollars brought no response, but when the amount was raised to five dollars the sophomore brought back the property, demanding the full reward offered before returning the article. When asked why he had not restored it to the owner as soon as he knew to whom it belonged, he said the figure mentioned was too small, and that he "needed the money".

Here is a character at once a menace and a disgrace to any institution of learning, and particularly to this branch of a great University, fostered by one of the foremost states of the union, a college wherein is taught those essentials of human kindness and solicitude for the welfare of his fellow man, the attainment of which is so primarily important to the success of the medical practitioner. Imagine what honor such a graduate would reflect upon the College of Physicians and Surgeons were he to go out in the world and exhibit these characteristics. We are accustomed to reading in the papers almost daily of the hold-up man who operates in the thoroughfares of the city, compelling his victim to submit at the point of a revolver, but we are inclined to think him only a trifle more dangerous than the hold up man, who, under the guise of a medical student, seeks to profit pecuniarily through the misfortunes of his companions, should they thoughtlessly leave any thing poratable where it may come under his notice. Evidences of petty thievery are not infrequent and, while annoying, are generally overlooked as being of no great imporatance one way or the other, but such a plain case of brigandage as this seems to call for more than ordinary condemnation. The identity of those involved is purposely ommitted at the earnest request of the victim, who desires to avoid further notoriety in this connection, but the prime mover in the deal is well known, ane he may be assured that exposure will certainly follow a continuance of such methods.

The holiday vacation was evidently utilized to good advantaage by some of our members, as evidenced by the following from the Marcellus, Mich., "News": "Earl Still and Miss Floss Taylor were married Tuesday, Jan. 1, 1901, at the residence of Mr. Eberhard, in Jones, F. P. King, justice of the peace, officiating."

Waufle and Barnsback have both been on the sick list but recovered during the holidays.

F. C. Fisher is wrestling with the popular "Grip".

Why did George remove his facial adornment? It didn't help matters a bit.

By the way, what has become of that indigo blue waist?. There was another waist that wasn't so worse either but it appeared only once or twice.

Did you notice Shepard blush on the first day after his return from home? No explanation has been offered.

J. W. thought the specimen shown in the pathological laboratory was the gizzard of a chicken, Did any one else have a guess.

Wochos can tell you all about the blue baby. Ask him.

Obie is entitled to ten for that original idea regarding the tubercle bacillus in large cities, where it is liable to destruction on account of the great amount of travel.

FRESHMAN NOTES.

After we have returned to our work, some happy and content while others with an expression of home sickness upon their faces that speaks too plainly the miserable state of mind they are in. Of this latter class no other one has it quite so bad as Case. Last Monday night, he was seen walking the streets, going he knew not where. When an intimate friend asked him his troubles he replied "home sickness". A few days later he was missed fron his classes and when he returned, apparently his troubles were ended. Was it the few days rest that brought about this change?

We think not! Perhaps it was the "Auto" ride to Austin with the beautiful Vassar girls. Was that it Case?

We are all glad to see Greaves, who received injuries in a wreck, and Hattery who was sick so long before holidays, back with us again.

Personal; Will the gentleman or thief who took my Vol I American Physiology test food, please come and get the second volume as the set is incomplete without it and I dislike to spoil a set.

"D. J. " Rep-lo-gee.

The class was deeply moved when the announcement was made of Dr. Deyers great bereavment; the loss of his daughter. All responded liberally to the president's call for flowers.

Mr Browne, the Supt., with the class officers attended the

services at the home and the final rites at the cemetery representing the class.

We all join in extending to Dr. and Mrs. Dreyer our heartfelt sympathies.

On Jan, 4th a class meeting was called to adopt the following resolutions:

WHEREAS, An all wise Providence, has in its mercy removed from their home the beloved daughter of Professor and Mrs Geo. P. Dreyer, be it

Resolved, By the Freshmen of the college of Physcians and Surgeons of Chicago, Illinois, in class assembled, that they individually and collectively do extend to the bereaved parents and family this expression of sincere sympathy and condolence in their hour of sorrow.

Resolved, That the class assures Professor Dreyer of its continued regard and esteem and will welcome him back to the lecture room. Be it further

Resolved, That a copy of these resolutions be sent to Professor and Mrs Dreyer, and that they be spread upon the records of the class.

Done this fourth day of Jan. 1901.

JACOB L. EISENDRATH, Pres.
CLARENCE D. BARKER, Secy

Attest W. H. Browne, Supt.

NEWS ITEMS.

Dr. J. A. Wesener lectured to the school on Saturday morning January the 12th upon the results of some original work which he has been doing.

Charles Smith formerly of the class of 01 U. of I. paid us a visit recently while on his way back to Houghton Mich. where he is attending the College of Mining Engineering.

The fall term ends the 26th of the current month and the winter term opens Febuary the 4th giving us a vacation of one week.

The order recently issued requesting members of the school who have not been vaccinated withiu the past few years, to do so, is being carried out.

Many members of the school are or have been victims of the "grip" epidemic.

The Chicago Eye, Ear. Nose and Throat College, about the first of the year, will move into its recently purchased four story and basement building on the S. E. corner of Franklin and Washington Sts., which is being remodeled and equipped for carrying on the college work. Here it will have the increased space and equipment, which the college has found necessary to add for carrying out its methods of instruction in the special branches represented by the school.

Dr. Bayard has now an office at 1305 Columbus Memorial Bldg., Chicago. Hours 2-3. P. M.

BOOK REVIEWS.

GENERAL VEGETABLE PHARMACOLOGY by Albert Schneider, M. D., Ph. D., Professor of Botany, Pharmacography and Materia Medica, Northwestern University, School of Pharmacy. Octavo, cloth, 136 pages, price $1.25 Chicago Medical Book Co., 1900.

The author intends it, as an aid to the study of vegetable drugs, also as a supplement to any one of the existing text-books on pharmacography as none of them contain any reference to a general survey of the subject. The book is well written. It aims by a brief reference to the physiology of the senses to place the examination and description of the physical characters of vegetable drugs upon a natural and scientific basis. It contains excellent generalizations on the collection, preparation of drugs, and the detection of adulterations. It is a good book for the student of pharmacy. B. Fantus, M. D.

PANAMA AND THE SIERRAS, A DOCTOR'S WANDER DAYS. By G. Frank Lydston. M. D., Professor of Surgery of the Genito-Urinary Organs and Syphylology, in the Medical Department of the University of Illinois. Cloth bound, 285 pp. The Riverton Press, 132 Market St., Chicago.

As the name suggests, his book describes, Dr. Lydston's wander days to the Isthmus of Panama, the Sierra Mountains, and California. He starts his journey from New York and returns by the way of California. It is said when the famous Alexandrian Library fell into the hands of the invading Saracens, the question arose as to what disposition should be made of it, and when finally brought to the attention of the autocratic Omar he decided

it in this manner· "If the books agree with the Koran, they are useless if they disagree, they are pernicious, in either case destroy them. Now if one has never taken a trip like that of Dr. Lydston's then he should read the book; if one has traveled over the same ground, he certainly ought to read it to review the scenes he may never see again. In either case one will feel repaid to read the book,

The book is written in Dr. Lydston's inimitable way, One feels when he reads it that *here is the truth.*

Southern and western scenes are depicted as only a keen and scientific observer. well acquainted with his surroundings can portray. There is plenty of wit and humor and just enough pathos to make the whole well balanced. Instead of carrying a grip full of medicines, the doctor carried his camera and so the book is well illustrated with beautiful half.tones taken from his photographs.

Dr. Lydston gives one a keen insight into the success(?) of the Panama canal venturs, and his stories of western life are unexcelled in richness and spiciness by even our own Bret Harte. To read the book is to enjoy it.

LIMITATIONS OF LEARNING AND OTHER SCIENCE PAPERS. By Albert Schneider, M. D., Ph. D.

This book is a collection of Science papers on the subjects of Evolution: The Evolution of the Mind. The Evolution of the God Idea; The Limitations of Learning; Crime and Heredity, and Hypnotism. The book is written in a clear, concise manner, and being intended for the laity rather than for advanced students of philosophy, the author has striven to present his views in a simple yet scientific manner. It is a book full of interest and instruction and is an excellent little work, leading to the larger and more exhaustive treatises.

UNDER PALMETTO AND PINE. By J. W. Carhart, M. D. Cloth. 230 pages. Price $1.00. The Editor Pub. Co., Cincinnati, Ohio.

This is a most interesting book, dealing with problems of the Colored Race in the South. To handle a sociolozical problem in a way to attract the public is a difficult matter. But Dr. Carhart has presented his subject in a new and unique manner, and the reader is bound to finish the book when once begun.

There are about twenty stories each of which is complete in itself, with the exception that certain characters reappear in successive chapters. Each of the stories deal with some phase of life of both the Colored and the whites of the Sonth. These are stories of love and pathos; of weakness and sin, and all in all it is a book that ought to be and will be widely read.

GRIPPAL MEDICATION SIMPLIFIED.

The large and increasing number of deaths, especially among our prominent men, due primarily to the prevailing epidemic of La Grippe, and the serious illness of President McKinley from the same cause, impresses us with the advisability of calling the of our many readers to the really excellent remedial qualities of the different products of The Antikamnia Chemical Company in the treatment of this scourge and its many insiduous allied diseases. For the purpose of reference, we append a list of their various preparations, viz:

Antikamnia Tablets
Antikamnia & Codeine Tablets
Antikamnia & Quimne Tablets
Antikamnia & Salol Tablets
Antikamnia Quinine & Salol Tablets
Antikamnia Powdered
Laxative Antikamnia Tablets
Laxative Antikamnia & Quinine Tablets

The last mentioned is a new and without doubt a most desirable combination in the above complaints and also in all malarial and congested conditions.

C. C. O'BYRNE, M. D.
Adjunct Professor of Pathology, College of
Physicians and Surgeons, Chicago,
(Medical Department University
of Illinois.)

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS,

VOL. VI. FEBRUARY 20th, 1901. NO. 10

EPIDEMIC CEREBRO-SPINAL MENINGITIS. REPORT OF A CASE.

By Chas. C. O'Byrne, M. D.

Epidemic crebro-spinal mengitis has been recognized for about a century. Vieusseaux first accurately described an epidemic of this disease occurring in Geneva in 1805. The disease appeared the next year in Medfield, Massachusetts, and was described by Danielson and Mann. The disease spread all over New England and existed continuously for the next ten years.

The disease occurs sporadically or in epidemics, but in the absence of an epidemic one should hesitate to pronounce a case one of epidemic cerebro-spinal mengitis without demonstration of the specific cause of the disease.

Classifications of a disease should be based when possible on ætiology, hence it has not been possible until quite recently to classify the various forms of meningitis. Notwithstanding numerous efforts to discover the cause of this disease it is only until recently that the organism has been recognized. In 1887 Weichselbaum described a peculiar form of micro-coccus which he found in six cases of meningitis. It was a diplo-coccus—occurred mostly within the cells, grew best on agar-agar, and decolorized by Gram's method. In pure cultures it formed a rather viscid, grayish white growth. He inoculated mice, guinea pigs, rabbits and dogs with the organism. Subcutaneous inoculations were without result but inoculations into the pluræ and peritoneal cavities of these animals proved fatal in from one to four days. He also produced meningitis by inoculation right

into the meninges. He called the organism the diplo-coccus intracellularis meningitidis. The organism was described by others but it was not until 1895 that his observations received important confirmation. Jager described the organism in a number of cases and his description agrees with that of Weichselbaum. Huebner also confirmed Jager's observations; many others described the organism and all particularly agree with Weichselbaum.

Councilman found the organism in thirty-one of thirty-five post-mortems of patients dead with meningitis; of the four remaining cases, two were chronic cases, one was a mixed infection and the diplococci were found in the fourth by lumbar puncture ante-mortem. He gives the following description of the diplo-coccus of Weichselbaum.

"It is a micro-coccus of about the same size of the ordinary pathogenic micro-cocci and appears in diplo-coccus form, as two hemispheres separated by an unstained interval. It stains with any of the ordinary stains for bacteria, and is decolorized by the Gram method of staining. There is considerable irregularity in staining, some organisms being brightly stained, others more faintly. Sometimes this difference in staining is seen in a single pair of organisms, one being more brightly stained than the other. There may also be considerable variation in size, and the larger organisms stain imperfectly. In the swollen organisms there is often a brightly stained point in the center, while the remainder of the cell is scarcely colored. These variations in size and in staining appear to be due to degenerations and are more common in old than in fresh cultures.

"In cultures the organism does not give profuse growth on any medium. The blood serum mixture of Loeffler is best adapted to its growth. On this mixture the growth forms round, whitish, shining, viscid-looking colonies with smooth, sharply defined outlines. The colonies tend to become confluent and do not liquify the blood serum. To be sure of obtaining growth, it is necessary to make a number of cultures, using large amounts of the material investigated. To keep cultures going, transfers must be made daily and four or five tubes inoculated.

"In the tissues the diplo-coccus is almost strictly confined to the polynuclear leucocytes. It is never found in the bodies of other cells."

In fifty-five cases in which lumbar puncture was performed,

Councilman found the organism in thirty-eight cases, and believes they can be demonstrated in every case where the puncture is made early.

Mallary and Wright (Pathological Technique) give the following descriptions of the operation:

The operation and the subsequent examination of the fluid should be as carefully performed as any other bacteriological investigation, in order to gain accurate results.

The back of the patient and the operator's hands should be made sterile. The needle should be boiled for ten minutes. The patient should lie on the right side with the knees drawn up, and with the uppermost shoulder depressed as to present the spinal column to the operator. This position permits the operator to thrust the needle directly forward rather than from side to side; an antitoxin needle four centimeters in length, with a diameter of one millimeter is well adapted for infants and young children. A longer needle is necessary for adults and children over ten years of age.

The puncture is generally made between the third and fourth lumbar vertebræ, sometimes between the second and third. The thumb of the left hand is pressed between the spinous processes, and the point of the needle is entered about one centimeter to the right of the median line, and on a level with the thumb nail, and directed slightly upward and inward toward the median line. Care must be exercised to prevent the point of the needle from passing to the left of the median line and striking the bone. At a depth of three or four centimeters in children and seven or eight centimeters in adults; the needle enters the subarachnoid space, and the fluid flows usually by drops. If the point of the needle meets with a bony obstruction it is advisable to withdraw the needle somewhat and to thrust again, directing the point of the needle toward the median line, rather than to make lateral movements, with the danger of breaking the needle or causing a hæmorrhage. The fluid is allowed to drop into an absolutely clean test tube without running down the sides. From five to fifteen cc. is a sufficient quantity for examination."

No ill effects are seen from the punctures. It is the only positive way in which an ante-mortem diagnosis can be made in the absence of an epidemic.

Morbid anatomy: The changes produced by the diplo-coccus are, an exudative productive inflammation of the pia-arachnoid together with an inflammation of the underlying brain and cord. In the more acute cases there is an intense congestion of the pia-arachnoid of the vessels of the cortex of the brain, and an exudation of a considerable amount of sero-pus containing only the polynuclear leucocytes. The diplo-cocci are found in these polynuclear cells.

Areas of round celled infiltration are found in the brain substance especially around the vessels which dip into the cortex from the pia. Councilman describes proliferation changes in the neuroglia, and also degenerative changes in the ganglion cells of the brain and marked degeneration of the nerve fibres, not only of the cranial nerve, but also of the spinal nerve roots. These degenerative changes account for some of the symptomatology not before well understood.

In reporting the following case it is not my purpose to go extensively into the symptomatology of the disease, but merely to call attention to some of the more uncommon features of the disease.

M. Z. Aged 2 years and 3 months, was taken suddenly ill, Feb. 10, 1899, with vomiting, followed by fever and slight delirium, the child soon passing into a typhoid state; the temperature did not vary a great deal from 102½°–103½°. The day following there was noticed a slight stiffness of the muscles of the neck, and in the course of the next few days there developed a marked opisthotonos. These symptoms continued without marked change, the patient growing weaker and with difficulty retaining food, milk being the only article of diet that she would retain; the temperature was constant with but slight remission. The pupils were unequal and did not react to light well. During the third week the pupils became dilated and would not react to light at all. It was at this time that we discovered that she was blind. It was also during the third week that she became paralyzed in all of her extremities, and in the muscles of her trunk. She could not speak, and for a long time she did not cry. She could not close her eyes nor move them, and it was with difficulty she could swallow. The heart became markedly arrythmical in its action, and her breathing became irregular and shallow. The bowels did not act except as the result of an enema. She urine

was retained for about 24 hours, but was voided upon using hot fermentations over the vulva.

In the fourth week her condition began to improve somewhat. The fever subsided and remained normal. The heart's action improved and respiration was better. She had, however, become markedly emaciated, and we still had difficulty in nourishing her. The paralysis remained as well as the blindness. If she could hear she gave no evidence of it. The pupils were widely dilated and did not react to light. In the course of about two months she began to move her hands slightly and afterwards her feet. Motion gradually returned in all the voluntary muscle, and gradually her power of speech returned. It was about one year before she could stand, and about six months before she could sit propped up. In about six or eight months she began to use her hands sufficiently to feed herself. In August she began to notice objects a little and her pupils began to react to light slightly. Her vision gradually returned and at the end of about a year her vision was apparently normal. Her eyes were examined by Dr. F. A. Phillips during the period of total blindness and showed a normal fundus.

I find cases reported of blindness following cerebro-spinal fever with recovery after some months, also cases of paralysis which also recover, but I have found no record of paralysis involving practically all of the voluntary muscles together with total blindness lasting for so long a time with complete recovery. As regards the contagiousness of the disease or its work of propagation, we do not know how the organism reaches the meninges and hence cannot tell how it is transmitted, The fact that the disease is due to a definite organism would indicate its propagation by contagion, but when and how the organism enters the body we do not know. The mother of our little patient developed the disease during the first week of her child's illness and died within thirty-six hours from its onset.

F. A. PHILLIPS.

Professor of Ophtholmology, Chicago Clinical School; Instructor of Ophtholmelogy, College of Physicians & Surgeon; Member of the Staff of the Illinois State Eye and Ear Infirmary.

REPORT OF A CASE OF SUPPURATIVE KERATITIS WITH RESUME OF THE HISTOLOGY, INFLAMMATORY INVOLVEMENT, AND CLINICAL EXAMINATION OF THE CORNEA.

By Frank A. Phillips, M. D.

Case 1. Suppurative Keratitis (ulcer of the cornea) Secondary to Ophthalmia Neonatorum.

B. L. Age 15 days. Nov. 1st, 1900, the mother brought this babe to my clinic at the Illinois Charitable Eye and Ear Infirmary stating that on the fourth day after birth a discharge from each eye was observed, for which the attending physician prescribed, two days later, a wash and powder. This treatment was followed for eight days, at the end of which time I first saw the case.

Inspection showed the œdematous reddened lids tightly sealed with a drying yellowish secretion. In the secretion and dusted over the lids were particles of the white powder used in the medication.

Reclining the patient with its head in my lap the dried secretions were carefully removed. Separating the lids a copious discharge of thick creamy pus escaped, flowing over upon the side of the face. Flushing out the conjunctival sac freely with a saturated solution of boric acid, the lids were separated by means of a Desmarre's elevator and the cornea exposed to view.

The right cornea presented a very large central perforating ulcer, through which the lens had already escaped; the opening was occluded with a mass of degenerated vitreous and fibrinous exudate covering the prolapsed iris.

The left eye, more fortunate than its fellow, had a smaller perforation, slightly above the center of the cornea, with a prolapse of the iris.

Microscopic examination of the secretions demonstrated the presence in large numbers of the Gonoccus of Neusser. This established, beyond a doubt, the fact that we were dealing with a case of suppurative keratitis with perforation of both

corneas, secondary to a badly managed ophthalmia neonatorum.

The treatment was that for the primary infection of the conjunctiva with the addition of the instillation three times daily of one drop of a ½ per cent. solution atropiae sulph.

The mother and child were placed in the ward at the Infirmary, where, owing to her home cares, she could remain but two days. In that time she had, however, mastered sufficiently the technique of caring for the eye to continue the treatment intelligently and successfully at home, coming each alternate day for treatment in the out door clinic. The treatment consisted from half to hourly flushings of the conjunctival sac with a saturated solution boric acid, for which was substituted two or three times daily a 1 to 4,000 solution of potass. Permanganate. This treatment was continued night and day until the discharge was under control, at which time the intervals were gradually lengthened. The lids were kept anointed with vasaline to promote the escape of the secretions by lessening the tendency to their adhesion and to protect the skin from irritation by the discharges and frequent medication.

It is my usual practice to substitute for the atropia solution a 1 per cent. ointment of the drug. The atropine should be thoroughly triturated with some such bland oil as sweet oil of almonds before incorporating with the vasaline as otherwise the small particles of the crystals act as irritants to the eye. A small portion of this ointment is introduced into the conjunctival sac three or four times daily.

In the clinic the eyes were thoroughly flushed with 1 to 5,000 solution hydrarg. bichloride, the conjunctiva everted and touched with a 20 per cent solution of protargol, followed by an application of atropia or duboisia ointment.

At the present time the left cornea presents a cicatrix, involving its upper two-fifths, in which the iris is included to such an extent as to leave no visible pupil present; later an iridectomy will be advised and performed, in the hope that an artificial pupil may be formed and at least a sufficient degree of sight obtained to allow of the patient's moving about without an attendant.

The right eye presents the condition of phthisis bulbi, of a dense cicatrix having replaced the entire cornea.

Seeing such serious results follow a secondary keratitis,

suppurative, leads me to feel that attention should be called to the need for frequent examination of the cornea during the progress of any affection of the conjunctivæ or lids.

Further, the cornea stands in such an intimate and important relationship with the sight, and thus, the social and civic status of the individual, that a more than passing study should be made of its structure, examination, and diseases.

Normally it is transparent, slightly elliptical in shape averaging eleven millimeters in its vertical and twelve millimeters in its horizontal diameter. It is made up histologically of the following five layers:

1. *Anterior epithelium* (Fig. 1 E) a pavement stratified epithelium directly continuous with the epithelial layer of conjunctiva.

2. *Bowman's membrane* (Fig. 1 B) a quite thin homogeneous structure connected intimately, anatomically and structurally with the corneal stroma.

3. *Stroma* or *substantia propria* (Fig. 1 S) composed of a ground substance and cell structure.

The ground substance is made up of transparent connective tissue fibrillæ arranged in flat bundles. These bundles are united in lamellæ (Fig. 1 L) which being superimposed make up the corneal stroma. The fibrillæ, bundles, and lamellæ are held in this relation by an albuminous, cement substance. Between the lamellæ and the individual bundles is found a system of lymph channels (lacunæ and canalicili Fig. 2), in which are located the *cellular* elements of the cornea.

These consist of *fixed corneal corpuscles* (Fig. 1 K) and *wandering cells* discovered by Recklinghausen and recognized as white blood corpuscles. The fixed corneal corpuscle (Fig. 2 P) are protoplasmic cells provided with a single large nucleus and many protoplasmic processes.

These corpuscles lie in and partially fill the lacunæ while the protoplasmic processes extend into the canaliculi and connect with neighboring cell processes. The spaces are thus not completely filled with the cell structure but are permeated with lymph derived from the vessels of the limbus. It is by means of this lymph the nutrition of the cornea is maintained.

4. *Descemet's membrane* (Fig. 1 D) (*membrana elastica posterius*) a highly resistant homogeneous hyaloid membrane.

5. *Posterior endothelium* (Fig. 1 E) a single layer of polygonal endothelial cells.

Structurally and embryologically the cornea is a continuation of the three adjoining tissues, viz., the conjunctiva, the sclera, and the uveal tract, (iris, ciliary body, and chorioid). The conjunctiva being continuous with the anterior epithelium; the sclera with Bowman's membrane and the corneal stroma; the uveal tract with Descemet's membrane and the posterior endothelium. (Shwalbe).

Fig. 1

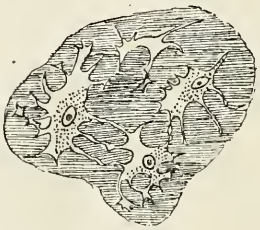


Fig. 2.

Fig. 3

Fig. 4

Fig. 5

P E Grubow 02

Fig. 1. Cross section through Normal Cornea. Magnified 100x1 (After Fuchs). *E*, Anterior Epithelium, *B*, Bowman's Membrane, *S*, Stroma consisting of Lamellæ, *l*, and Corneal Corpusle, *K*; *D*, Descemet's membrane *e*, Posterior Epithelium; *N*, Nerves extending through Bowman's membrane to Epithelial layer.

Fig. 2. Lamella of Cornea, surface view (after Waldeyer) *A*, ground substance *C* corneal corpuscle with nucleus, *N*, lying in Lacuna, *L*, canaliculus connecting Lacunæ.

Fig. 3. Superficial bloodvessels in Pannus, magnified 2x1. (After Fuchs).

Fig. 4. Deep lying bloodvessels in Parenchymatous Keratitis, magnified 2x1. Recent case showing pencillate branching. (After Fuchs).

Fig. 5. Deep lying bloodvessels in Parenchymatous Keratitis. Magnified 2x1 Old cases with besom-like branching.

Normally the cornea is devoid of blood vessels—its nutrition being maintained by the plasma circulating in the lymph spaces; in the course of many varieties of keratitis, however, it is invaded by newly formed blood vessels which project from the

vessels at the limbus. This vascularization is either (a) superficial, being derived from the conjunctival loops or (b) deep, derived from the scleral vessels of the limbus. The former variety are seen to lie just beneath the epithelial layer, frequently lifting it perceptibly and the vessels branch in an arborscent manner (Fig. 3). In the deep seated variety the individual vessels are more indistinct and present a pencillate (Fig. 4) or besomlike (Fig. 5) branching.

Fig. 6

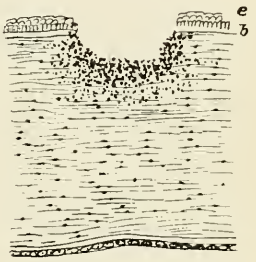


Fig. 7

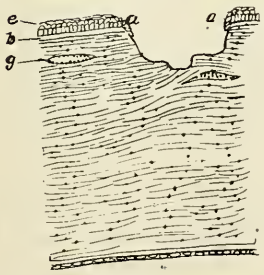


Fig. 8

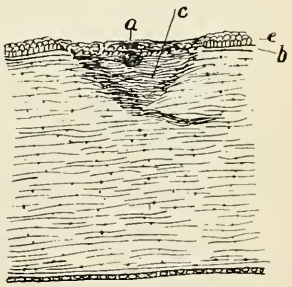


Fig 9

Fig. 6. Infiltrate in the Cornea (After Saemisch-Fuchs) the Epithelium *e* and Bowman's membrane are unbroken. Make exudate nearer the surface. Not so centrally located in stroma.

Fig. 7. Suppurative stage of Keratitis, foul or progressive ulcer, (after Saemisch-Fuchs). Observe that Bowman's Membrane (*b*) and the Epithelium (*e*) are destroyed over this area the base of which is densely infiltrated and covered with pus corpuscles. (Saemisch-Fuchs).

Fig. 8. Regressive stage of Suppurative Keratitis clean ulcer, (after Saemisch-Fuchs). Observe that the base of the ulcer is not markedly infiltrated as in Fig. 7. At *g* cross section of newly formed superficial bloodvessels can be seen.

Fig. 9. Cicatrix of the Cornea. The Epithelium, *e*, is everywhere present, but over the cicatrix is irregular. Over the cicatrix, an absence of Bowman's Membrane *b* is observed. At *a* is a thickening of the Epithelial layer. The cicatrix is less regular and more dense than the normal corneal tissue.

Inflammatory involvement of the cornea (*Keratitis*) manifests itself by an alteration in its transparency, lustre or evenness. Generally considered, we divide it into two forms, suppurative and non-suppurative.

Every case of *suppurative* keratitis presents the following three stages: 1, Infiltration; 2, Suppuration; 3, Cicatrization.

1. *Infiltration.* The first evidence of an inflammation consists of an exudate made up of migrating leucocytes located in the parenchyma of the cornea (Fig. 6). This is manifested by a cloudiness of the corneal substance and a more or less marked loss of lustre to the epithelial surface, depending upon the depth and extent of the infiltrate. When superficial or when extreme the surface may be uneven, presenting numerous little elevations, the so-called shagreen appearance.

2. *Suppuration* occurs when the exudate reaches such a development that the vitality of the tissue cannot be longer maintained. It is considered quite unusual for an actual abscess of the corneal substance to occur and instead the suppurative process is usually manifested by a loss of substance in the superficial layer of the stroma, Bowman's membrane, and, the anterior epithelium, thus producing an ulcer. (Fig. 7). The lesion is surrounded by an area of exudation, has a gray infiltrated base and margin, and is known as a *progressive* or foul ulcer; when the destructive process is ended, the surrounding infiltration diminishes, (the edges and base becoming clearer), the ulcer has become *regressive*, (clean) (Fig. 8) and the stage of cicatrization is inaugurated.

3. *Cicatrization:* In this process the fixed corneal corpuscles proliferate, forming new connective tissue, (Fig. 9 C) over which the epithelium is restored. (Fig. 9 E). Bowman's membrane is not regenerated. Every loss of substance thus repaired in the stroma results in an opacity, the cicatrix, the density and size of which depends upon the limit to which the destructive process has extended.

Non-suppurative forms of keratitis present but two stages; those of infiltration and resorption. In this form the infiltrate does not reach such a degree as to result in death of the tissues, and the resolution occurs, usually, without the formation of a cicatrix; however, a partial organization of the exudate between the lamellæ or an alteration in the structure of the lamellæ

themselves may occur, thus causing a slight loss of transparency.

A classification of the subdivisions of these two forms of keratitis is made as follows:

Keratitis suppurativa.

1. Ulcer of the cornea.
2. Ulcus serpens cornea (hypopyon keratitis abscess of cornea).
3. Keratitis neuro-paralytica.
4. Keratitis Lagophthalmo.
5. Kerato-malacio.

Keratitis non.suppurativa.

(a). Superficial forms.

1. Pannus.
2. Keratitis with vesicle formation.
3. Keratitis filamentosa.
4. Keratitis punctata superficialis.

Deep forms.

5. Keratitis parenchymatosa (keratitis interstitialis).
6. Keratitis profunda.
7. Keratitis sclerosing.
8. Keratitis arising from posterior surface of the cornea.

Space prevents a detailed description of each of these subdivisions and their treatment. Attention is directed to the fact that of the suppurative group, the varieties of ulcer of the cornea are of the more common occurrence.

Parenchymatous keratitis is the typical non-suppurative form; it is a disease of early life and associated usually with inherited syphilis.

A diagnosis of the form and stage of a corneal inflammation may be obtained by observing the following points. In a recent affection the surface is dull; a loss of substance being observed, indicates a foul ulcer, but if the surface is unbroken, an infiltrate. In a chronic affection the surface is usually lustrous, in which instance a loss of substance indicates a clean ulcer; the surface being unbroken, a cicatrix.

All forms of keratitis uniformly produce *ciliary injection*; unless very mild the conjunctiva is involved, and the lids hyperæmic and œdematous. Iritis and irido-cyclitis frequently

complicates the more severe grades. Subjectively the patient complains of lowered vision, pain, photophobia, lachrymation and blepharospasm. If secondary to an already existent eye trouble, these symptoms are inaugurated, or if already present, they are usually increased.

A *clinical examination* of an eye should never be considered complete until the cornea has been exposed and examined. Attention should be paid to its form, size, polish and the transparency of the structure, viewing it both by direct and focal illumination. Focal illumination is an indispensable aid in the proper identification of the tissue involved, whether superficial or deep, and the changes occurring in its structure. This consists in focusing the rays of light directly upon the part being examined by means of a convex lens of fourteen to twenty dioptre strength. Day light entering at a window may be thus concentrated, but better than this is a source of artificial light, preferably an argand gas burner, a candle or oil lamp answering when gas cannot be had. A magnification of the structure under examination may be obtained by viewing it through either a coddington or a twenty dioptre lens, maintaining at the same time the focal illumination.

The exposure of the cornea for inspection is frequently a matter of considerable difficulty, especially with children. It is essential, particularly at the first examination, to avoid pressure upon the eyeball, lest there being present deep ulceration, the exceedingly thin cornea be ruptured; to avoid any such untoward accident the cornea is best exposed by means of a Desmarre's lid retractor introduced carefully beneath the upper lid, by means of which instrument the lid is gently but firmly lifted away from and above the cornea. The lower lid can be drawn down by traction on the integument lying over the inferior orbital margin. A saturated solution of boracic acid for flushing the eye and a few pledgets of moist cotton for the removal of flakes of mucus and absorbing the tears constitute, with the above, all the essentials necessary for such an examination.

Both the operator and assistant should be seated with the light preferably at the side of the eye under examination and slightly above the level of the operator's head.

The little patient can be usually quite easily controlled for the examination by reclining it in the assistant's lap with the

head resting upon and grasped firmly but gently between the knees of the operator.

The third and fourth fingers of the hand holding the retractor, should be rested firmly upon the patient's forehead that any motion made by the patient be imparted at the same time to the instrument and hand of the operator.

The use of the elevator is indicated by either an uncontrollable spasm of the lids (blepharospasm), or by their being extremely swollen and œdematous.

The pain attendant upon its use may be modified by instilling a few drops of a 2 to 4 per cent. solution of cocaine hydrochlorate between the slightly separated lids. It may be necessary to resort to chloroform narcosis before a satisfactory view of the cornea can be obtained, but this should be done rather than to abandon the attempt without having arrived at a satisfactory diagnosis.

Treatment of keratitis must necessarily take into consideration the underlying cause and hence must be varied to meet the requirements of each special variety. Briefly stated, it may be said to consist of attempts to remove causative factors, local and general.

Locally, protection from light and exposure are indicated, bandaging when necessary. Never bandage when secretions are profuse or very irritating; the use of warm, moist compresses, warm, mildly antiseptic irrigations and atropia in 1 per cent solution or ointment are usually beneficial.

100 State Street.

LETTER FROM CUBA.

To the PLEXUS, P. & S. College, Chicago:

We are sweltering through the varied duties of the Pan-American Medical Congress here in this tropical climate with very much the same energy and enthusiasm as we would feel at home in July or August. There is none of our northern rush and hurry here. Manana, tomorrow, will do as well as today. In a country where the breakfast hour is eleven o'clock, it is hard to get people seriously interested in the value of time. It only shows ignorance of the ways of the country to keep an engagement on time. At the evening sessions of our congress one would make himself conspicuous by appearing at 8.30, the hour on the program. At 9, he would have a few scattering companions and somewhat later a bell—in place of the gavel—would announce that the proceedings were about to begin. It is hardly fair to draw comparisons between such a congress held in this part of the Americas where development is slow and handicapped by isolation and environment and one held in the United States where rapid progress is not only encouraged but forced upon us. Quite aside from the question of politics there is no doubt, so far, of the immense benefit to the Cuban country of the influx of North American spirit and enterprise. Whether our teaching and example shall promote to their progress toward the higher virtues is a question for Sociology to settle, but there can be no two opinions about the value to the Cubans of the Sanitary science which has been revealed to them since American occupation. It has regenerated the city of Havana as it did Santiago after the Spanish war. On a former visit six years ago, just before the outbreak of the Cuban insurrection the outward appearance of things was as pleasing as today. There was the same charm on approaching the harbor, the same picturesque beauty hung over the bright little city with its blue and red and pink and yellow roofs shining in the tropic sunlight, but one was fairly stifled by the filth and degradation in its streets. Today, through the efforts of Governor-general Wood, who is himself a physician, with the aid of loyal supporters in and out of the profession, Havana is a new town, clean, wholesome and prosperous, with pros-

pects of still greater improvement. The next boon offered the country is releif from the ravages and the stigma of the Yellow Terror. Through the magnificent labors of Dr. Walter Reed, U. S. A., this triumph seems assured. It only remains to quarantine and exterminate the mosquito, root and branch, *anophele*, *culex fasciata* and their ilk, and the South will be rid of those two blots on her escutcheon, malaria and yellow fever.

We are being royally entertained, there are about a hundred of us from the states. Those who arrived as early as Saturday were welcomed by the Academy of Sciences in the evening at the University. Sunday, there were two excursions and in the evening, a concert and fireworks at Central Park Most of us arrived on Monday in time to attend the opening sessions of the sections from nine to twelve. In the afternoon there was a reception by General Wood at the Governmental Palace and the Governor presided at the formal opening session in the evening, a very cermonious, full dress affair. Among the interesting things on the program of the week are a visit to the "Dique," a dry dock under process of construction, with a lunch offered by the contractor, Mr. Alfonso Pesant, a visit to Morrow Castle and the fortress of La Cabana, a railroad excursions to the "Rosario" sugar plantation and a ball at the Tacon Theatre. This latter was, of course, brilliantly beautiful affair but the most thoroughly unique and enjoyable of the entertainment was a lunch spread for us under the orange trees after our inspection of the sugar plantation. It would have been a noble feast anywhere but to eat it sitting under the spreading groves, freshly plucked fruit in profusion on the tables and laden branches within reach, made it a memorable feast to us cafeteria-bred northerners.

As for the Congress itself, the greatest drawback to complete success is in the necessary use of two languages. If Pan American conventions and expositions are to become general as seems likely, why not agree upon a Pan-language? While English is holding the floor our hosts and their Mexican and South American confreres listen with polite attention although it is to be more than suspected that an affable exterior covers the selfsame tired feeling we suffered from during the eloquent delivery of the Spanish papers. A man is always long-winded when you don't understand what he is talking about. Our conviction that the Spanish-speaking doctor is as loath to stop talking as he is dila-

tory about beginning, could no doubt be matched by a Spanish opinion equally complimentary of our oratory.

In the section on Gynecology and Abdominal Surgery, over which I have the honor to preside, in alternation with Dr. Ricardo Gamboa, of Mexico, we have reason to envy Prof. Byford, who has been boning Spanish for more than a year to such good effect that it is all intelligible and delightful to him. His proficiency has been of service to the entire party. Dr. Odorado, of the P. & S., a native of Cuba, has been of great assistance to the Chicago contingent. He will practice here in future, and feels that he has profited by his acquaintance with northern customs and his time in the P. & S. But after all, I am turning homeward with the old conviction undisturbed that, notwithstanding the growth and interest of this southern country and the possible financial profit of immigration hereward, the young man whose first wish is to be in the van of professional progress and to keep abreast of our stirring times had best continue "going west."

Sincerely yours,

HENRY P. NEWMAN.

Feb. 7th, 1901.

THE PLEXUS

THE OFFICIAL ORGAN OF
THE COLLEGE OF PHYSICIANS AND SURGEONS
MEDICAL DEPARTMENT
UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.
H. C. WADDLE, '03, Editor-in-Chief.
Supt. W. H. BROWNE, W. T. ECKLEY, M. D., D. N. EISENDRATH, M. D.,
W. A. EVANS, M. D., THOMAS FAITH, M. D., A. GERHMANN, M. D.
Associate Editors. L. HARRISON METTLER, M. D.
Local Editor, L. H. S. FRECHTLING, '03

Class Editors:

C. W. BURT, '01, W. M. FRENCH, 02, R. L. ELDREDGE, '03
M. R. MARTIN, '04.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. COATES
Alumni Editor, DR. C. C. O'BYRNE, '94. Clinical Department, JOS. ZABOKRTSKY, '01
Athletic " R. C. CUPLER '01 Library Department. GRACE W. BRYANT.

Advertising Solicitor, GEO. E. ROSENTHAL, '02.
Publisher. - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE**, 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the mouth previous to that of publication. The publishers willnot hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

Dr. F. A. Phillips, who contributed one of the leading articles to this number of the PLEXUS, is a graduate of the College of Physicians and Surgeons, class of 1891. For three years following his graduation he practiced medicine at Lawton, Mich., after which time he returned to this city and devoted himself to the study of Ophthalmology and Otology.

At present he is an Instructor in Ophthalmology, College of Physicians and Surgeons; Prof. of Ophthalmology, Chicago

Clinical School, and member of the staff, Eye Department of the Ill. State Charitable Eye and Ear Infirmary.

His clinics at the latter place on Tuesday, Thursday and Saturday, at 2 p. m. present an abundance of material and students will be made welcome visitors.

* *
*

Not only does the College of Physicians and Surgeons grow, but members of its faculty are continually receiving well deserved recognition from high authority. The most recent recognition of this character has been received by Dr. W. A. Evans, Professor of Pathology and Adolph Gehrmann, Professor of Bacteriology.

From Gov. Tanner's last biennial message to the Illinois State Legislature we clip the following: "It being established that tuberculosis is a contagious disease, the relation between man and the milch cow becomes of tremendous importance. The experiments conducted in the past few years have demonstrated that thousands of human beings have contracted the disease through the use of diseased cow's milk. One of the most important of these tests, and of great value to the world, was that made in 1899 by Drs. Adolph Gehrmann and W. A. Evans, of Chicago, at the request of the Illinois Live Stock Board. They tested the milk of forty-one cows which had shown on post-mortem examination presence of tuberculosis, and in the milk of fifteen the germ was found. Seventy-four guinea pigs were treated with the milk from the forty-one cows, and thirteen of the pigs developed tuberculosis. In the line of destroying tuberculosis in cattle, all that could be done in Illinois, prior to 1899, was to conduct tests upon herds, upon application of such owners as were willing to have cattle destroyed without compensation."

These two gentlemen are receiving honorable mentioning in many ways, and are recognized as highest authority in their lines of research.

Alumni Department.

'93. Chas. Waxham, for some time located at North Liberty, Ind., has closed out his office and joined the fortunes of his brother, F. E. Waxham, at Denver, Colorado. (F. E. Waxham, formerly Prof. in P. & S).

'93. C. E. Boddiger is located on 34th St., Chicago, and is doing a good practice.

'03. C. Stoltz, still located at South Bend, Ind., gaining a little year by year in quality and quantity of practice—lets no case of surgery escape him. Still in fœtal pathology—has accumulated an interesting collection of congenital monstrosities. Would be glad to receive report or reports of any thing along that line from his former class mates or others.

'93. W. T. Stewart has moved from 1251 W. 12th Street, Chicago, to 978 Douglas Blvd.

'93. George Hauenstein is doing well in general practice at Elkhart, Ind.

'94. O. M. Larstrum, now located at Marysville, Montana, was a recent visitor at the PLEXUS office. He is doing nicely in his far away home.

'97. Dr. C. E. Hansel, located at Lakeville, Ind., spent a few days in Chicago recently, renewing old friendships, visiting the clinics and purchasing better equipment in the way of books, instruments, etc. Dr. Hansel is rapidly gaining a good standing in his community, and his clientele is from the best families.

'98. M. A. Bingley is now located at the corner of Chicago and Milwaukee Aves., Chicago, . The Dr. is enjoying a lucrative practice.

'98. W. G. Wegner, of South Bend, Ind., is doing well; made a lively hustle for the office of County Coroner last fall, but by the devious ways of politics got left, though he was by far the most competent man in the field.

'99. J. C. Betz is now located at 663 North Robey Street, Chicago.

'99. W. K. Yeakel, writes as follows: "The PLEXUS is a very welcome visitor. Am pleased to note the progress of

P. & S. from month to month." Dr. Yeakel is Pathologist and Bacteriologist of the Omaha Medical Laboratory, 12th and Pacific Sts., Omaha.

'00. We clip the following from the Lincoln, Illinois *Weekly Courier*:

"Dr. Winans, the gentleman from Chicago, who was brought here by Dr. Meloy, the county physician, has ordered the quarantine raised in the locality where small pox has been prevailing and returned to his home. It is a cause of profound gratification to the public to know that Mr. Meloy was so successful in confining the disease in the territory where it was first discovered. Prof. Dillard, the teacher, will be out this week. All Broadwell and Lincoln are singing the praises of Dr. Meloy, who deserves the favors of the public for his work. It shows that he is careful, something which cannot be said of doctors in the past when small pox prevailed."

'00. R. R. Hampton, recently interne at the Illinois Eye and Ear Infirmary, and now settled in Mexico, was mrrried recently to Margaret E. Howat, of Salt Lake City.

'00. At this writing, Olin McCormick, located at Hersher, Ill., is seriously ill with pneumonia. It is to be hoped that we may note his recovery in our next issue. Dr. O'Byrne has been called to see him.

'00. A. F. Odoardo is now practicing in Havana, Cuba.

'00. S. T. Parsons, Chapin, Iowa. Dr. Parsons was a recent visitor at the PLEXUS office.

SENIOR RECEPTION AND BALL.

The Senior reception and ball given on Friday evening the eighth inst., at Beek's Hall, on Warren Ave., in honor of Prof. Wm. E. Quine, Dean of the College, was one of the most notable and brilliant affairs in the history of the P. & S. Inaugurated under the auspices and direction of the Senior class every detail and arrangement was worked out, meeting with a success which reflects great credit on the various committees in charge. Invitations had been sent to all the students and notwithstanding the inclemency of the weather, nearly two hundred gallant young deciples of Esculapius with their ladies gathered to do honor to their Dean and Alma Mater.

A formal reception was held from eight until ten o'clock; those in the receiving line being Prof. Wm. E. Quine, Prof. D. A. K. Steele, Prof. and Mrs. F. B. Earle, Prof. and Mrs. Wm. M. Harsha, Prof. and Mrs. T. A. Davis, Prof. and Mrs. Charles Davison, Prof. and Mrs. M. L. Goodkind, Mrs. H. P. Newman, Miss Elizabeth Heelan, Miss Margaret Curtis and Mr. J. W. Birk.

The faculty was further represented by Prof. and Mrs. A. H. Brumback and Prof. and Mrs. F. B. Turck. It was a matter of sincere regret that through illness Mrs. Quine was unable to be present. For two hours the Dean received the congratulations and good wishes (it being his anniversary) of the assembled guests and then the ballroom was thrown open for dancing. To the inspiring strains of Goldsmith's orchestra, Prof. Steele and Mrs. H. P. Newman, followed by Dean Quine and Mrs. F. B. Earle, led the grand march in which as imposing a company of young medics and charming women as one would care to see, participated. Dancing then began and for a program of fifteen numbers Terpsichore held merry sway.

"What matter how the night behaved?
What matter how the north wind raved?
Blow high, blow low, not all its snow
Could quench each warm heart's ruddy glow."

The dance went on and joy was unconfined until two o'clock, when carriages were announced. It is needless to particularize individually as to the striking appearance of the representative P. & S. student in a dress suit or the beauty and grace of their ladies in attendance. Suffice to say that the College of Physicians and Surgeons has reason to be proud of its students and the Senior class is to be congratulated on the success of its reception and ball. Edmundson served.

The following ladies of the faculty acted as patronesses:

Mrs. William E. Quine, Mrs. Daniel A. K. Steele, Mrs. Oscar A. King, Mrs. Henry P. Newman, Mrs. Bayard Holmes, Mrs. Robert H. Babcock, Mrs. Thomas A. Davis, Mrs. Frank. B. Earle, Mrs. William M. Harsha, Mrs. Maurice C. Goodkind, and Mrs. Charles Davison.

COMMITTEES.

SENIOR CLASS.

John W. Birk, Charles O. Wiltfong, Will R. Severson.

JUNIOR CLASS.

G. E. Rosenthal, P. G. Kitterman, G. L. Miller.

SOPHOMORE CLASS.

C. W. Poorman, F B. Barnes, G. F. Horan.

FRESHMAN CLASS.

H. H. Hattery, F. M. Keefe, J. L. Eisendrath.

SENIOR NOTES.

Vacation has come and gone, it seems like a dream it was so short and joyfully spent. But there comes a feeling of sadness if we but stop and deliberate for a few moments, when the thought comes that perhaps it is the last real vacation we are ever to enjoy, now that our college days are drawing to a close and in a few more months we hope to be out in the fields of active life. Few are our responsibilities now as students, but when that day of transformation comes we shall have thrown off our robes of school children and put on the robes of life and responsibility.

February 4th, the second term opened and work began at once with almost every Senior back for good hard labor. A few of the fellows went home for the vacation week, but the majority remained in the city. Among those who went home were, Hubbard, Donkle, Heilman, Rhodes and Rolfe. The general feeling among the students is, that it would be appreciated if the faculty would dispense with that week vacation and close the term one week earlier in the spring.

The Senior class has two or three additions to its number this term. Mr. A. C. Steckle comes from the medical department of the University of Michigan. Mr. Steckle enters with his work up even with the work of our winter term. Mr. Steckle is not only a student, but also an athlete. He was Captain of the University of Michigan foot-ball team in the fall of '99, and was one of the star players during his entire career on the gridiron. The members of the class congratulate Mr.

Steckle in his good judgment in deciding to come to P. & S. to complete his work and receive the diploma from an institution which is destined to be the best in the United States.

R. M. Ryan, after an absence of four months, has returned to resume the work with his class. His face certainly seems familiar to the members of the class and we are glad "the prodigal" has returned. Having lost the fall term of work Mr. Ryan will perhaps not be able to complete the work in May, but four months later. We regret to lose a man who has been so faithful for so long and then have to drop out on the finish. But, all is well that ends well.

E. C. Ruge, has finally been compelled to give up his work and seek a climate more favorable for his own well fare. The sympathy of the entire class go with Mr. Ruge, and we hope that soon he may be able to resist this nervousness of the bronchial tubes and begin to regain his flesh and ever after feel free of the disease. Mr. Ruge was considered a very active member of the quiz class, and thus our opportunities are lessend by one good man. Mr. Ruge has gone to Bisbee, New Mexico.

It has been reported also that Dr. Lemke has gone to Arizona with Mr. Ruge in search of a more favorable environment. He is suffering with tuberculosis of the lungs. Dr. Lemke had a promising future and he shows good judgment when he seeks the proper treatment early, and it may be that he may return in time to resume his active work in Cook County, at least it is to be hoped he may.

It will pay every member of the class well to take advantage of his opportunity to attend the clinics given by Drs. Lee and Helscher out at the Alexian Bros. Hospital. Dr. Lee gave section A, an excellent clinic last Thursday, Feb. 7, '01. Every man came away felling well paid for the time and money consumed. We can only urge those who have the opportunity, to improve it.

Cupid is ever darting about with an eye open to the irresistable. During the vacation W. B. Wells took unto himself a wife. Probably this accounts for the languid expression which is so characteristic in Mr. Wells countenance. If we were not cognizant of the full facts in the case—there might be some laboring under the impression that he was studying too hard. "Come out of it."

In the present senior class there are many who are already married and others contemplating. Of those who are married, one would naturally suppose that they had "sowed their wild oats" and were now ready to reap the harvest. This is true of most of them, but there is one "married man" in the class who everlastingly insists that he must have a certain seat in the C. A., providing the said seat is next to the seat occupied by one of the more gentle sex, and unless he can occupy such a seat, he seems to appreciate the lecture of the hour very little, and immediately drops off into a melancholic stupor, and may even go on to coma. Often has this senior become so interested in his conversation with the fair sex that unconsciously his proximal arm will creep to the back of the adjoining seat. That arm has been known to remain thus out of place and, the dislocation not reduced, for an hour or so. There is some danger of ankylosis if a joint is immobilized for too long a time, and one would think that a person with the teaching and clinical experience which Mr. Hombach has had that he would be more considerate and not run such a great risk.

The Senior Grand Ball—one of the most successful social events in the history of the institution occurred on the evening of Feb. 8, 1901, when the Seniors gave a Reception followed by a Grand Ball, in honor of Dr, Quine's birthday. No like adventure has ever been attempted by any previous class. Although the elements were at strife without, and the snow had accumulated to the depth of a foot or more no one who had contemplated going was kept away. Mrs. Dr. Quine was detained at home owing to illness, which was sadly regretted by all present. Out of a class of 160 over one-half were present. Those who were present report that never before did they ever get so much pleasure out of one evening.

The propagators of the event are certainly to be complimented and congratulated for their ardent efforts in making the event such a grand success in every respect. The following persons constitute the arrangement committee.

W. R. Severson.
J. W. Birk.
C. O. Wiltfong.

Dr. Yarros quizzing Baumann in regard to the position of the fœtus in the uterus. She had designated the location and

position of the head, and then asked Mr. Baumann what would be the location of the body. Mr. Baumann responds—I thinks sei body would be in sei abdomen.

JUNIOR NOTES.

Powers, who was absent last term, will be with us during the present term.

Conant and Dean are prospecting for Professor Eisendrath.

Bothue and Coates are assisting Professor Wiggin in clinical chemistry and microscopy.

There is a contest on between Poinier, J. S. Brown and Shafer for chief chart carrier. The latter seems to have the lead.

The firm of Henderson & Sawtelle, livery and drayage, has dissolved by mutual consent and Mr. E. A. Garrett has succeeded Mr. Sawtelle and the firm will continue as Henderson & Garrett. All those in debt to the old firm will consider their bills due and payable to Mr. Sawtelle. Any one wanting a trunk moved, a carriage or pony will do well to call on Henderson & Garret. In ordering mention the PLEXUS.

Heidelberg Kitler has formed a bowling club and it is rumored that he is kink of the Bowling Alley.

The dozen or more Freshmen that gathered in the hall and disturbed Dr. Porter by howling like a band of coyotes, no doubt have repented of their folly. At any rate the limited number of Juniors that got hands on them did their best to chastise them for their indiscretion. If it had not been for the timely interference of the superintendent it would be hard to say what might have happened. We are glad to report however, that no one was hurt and that all the glass in the museum was not shettered. It is to be hoped in the future that the aforesaid Freshmen will exercise their voices in the alley and not in hearing distance of the lecture room.

If there is any danger around Hohn is always up against it, but fortunately during the excitement in the lower amphitheater last week his foot was in it. Mr. Evans, the carpenter, was called to extricate said foot from the seat.

Professor—Is Miss Bernham here?

Bernham—Will you please change that to Mister?

Professor—You will have to see the Dean.

Ponier has had his mustache removed.

Prof. Brown's remarks were quite appropriate and well received, especially that part pertaining to the liveliness of the class. He presented president Morris with a silver pencil for his services in keeping the roll.

Mr. Dean will write the history and Mr. Slater the poem for the Illio. The Illio staff is a strong one and it will certainly make the P. & S. part of the University annual an interesting one.

It is to be hoped that there is to be a dearth of beards in the class soon as "His Whiskers" is numerously and humorously applicable, in the Junior class at present.

Jenson describes lithuria as sulphuric acid in the urine.

SOPHOMORE NOTES.

A certain young man, well known to the members of this class, thought he saw an opportunity to make himself popular in his home town. He has now seen the folly of trying to do the good Samaritan act, and is at present greatly impressed with the lack of appreciation manifested by his fellow townsman.

The story goes that a friend came to him one day and stated that he was suffering from a complaint which had baffled the skill of all the local talent, adding his belief that only a chemist, such as he knew our aspiring young friend to be, could furnish competent data for diagnosis of his ailment. Would the young chemist, who was about to return to his college at the expiration of the holidays, make a urinalysis, and prescribe in accordance with the findings thereof.

"Certainly" replied the aspiring young man "I'll do it and send you just the thing you need to cure you."

It would never do to admit that he didn't know it all, even although never in his life had a urinometer been in his hands. He knew, however, of a skillful chemist who would do the trick in scientific style, and he was absolutely certain it wouldn't cost him a cent. He didn't expect to profit financially by the deal, but he had a reputation to make and sustain, and he proposed to do it. The chemist was asked to make the test, and carired it out with a careful skill, reporting not only the findings but indicating what remedies to exhibit. Along with this was a bill for

$5 for his services, the chemist, quite naturally, considering his time of value. This was a stunner for the young man, but he was game and paid it. He thought of the prestige which success in the treatment of this case would bring, and was happy. He even purchased the drugs which the professor prescribed, and sent them to his country friend by express, charges paid. Then he waited for his reward but it came not. The country friend followed the directions carefully, used the prescribed remedies, and in the course of time wrote our medical young friend that he was quite cured, but instead of enclosing a check to defray the expense incurred, intimated that he would see him later. Now our young medical friend is wondering where he gets off. Verily the road to fame and prosperity is a rough and rocky one, mostly upgrade.

A remarkable luxuriant growth of whiskers has developed in the last few weeks, several members being victims of the epidemic. The rankest growth, as might be expected, comes from Kansas, which is represented by Yates and Sackett. Closely following their leadership come Weld, Jewell, Donkle, King, Shure, Butterfield and Waufle, all of whom have well defined beards. Oh yes, there is Poorman, C. W., also and there is no doubt he is more attentive to his than all the rest combined. That is why he makes such frequent trips to the north end of the chemical laboratory.

Seeley caused some surprise by appearing one day recently in immaculate linen, in place of the sweater with the flowing cape.

McGann doesn't deny that he lives high but says it applies only to his room.

Yes, Mr. Fisher, O. G. All kidneys are congenital.

Lipman would suggest the use of dilute water.

We miss from our ranks this semester Sill and Vance. We trust they will be with us again next year.

A bottle of diphtheria antitoxin disappeared during the bacteriology class last week. Some persons would filch a bundle of tubercle bacilli. Perhaps they could use it on the "animals with feathers" that we heard about the other day.

FRESHMAN NOTES.

After vacation, every one of last term's students, except Wm. Montgomery, who is going to take up pharmacy, is back ready for work. About a dozen new students entered the clas this term. With the beginning of this term commences our laboratory work in physiology and with the newly equipped laboratory there is little excuse for not doing good work.

F. J. Blackmeyer, while home during Christmas vacation, had the misfortune to fracture his leg. However, by the aid of crutches he is able to be with us, after an absence of three weeks.

Miss Price, of the Harvey Medical, made us a call the 7th inst. She did not express herself but it is surmised she thought the gentleman a little rude.

Looking at Cavenaugh, to think him a hold-up man would be the last thought to most of us; but evidently not so with every one. Last Saturday night, Feb. 9th, he had an engagement and as usual, he was late. But as late as he was it was necessary for him to go to Heassly's room first. In order to partially make up for lost time, he started on a "dog trot" and got along "swimmingly" for a block or so when he met a lady, who when seeing John coming toward her, dropped her dignity and throwing up her hands began screaming, "Oh for God's sake! Don't touch me, I'm only a poor working woman and I have no money."

Cavenaugh's charactic reply, when he was trying to quiet her was, "For Heaven's sake! I wouldn't touch you if you did have money." Cavenaugh left the crowd to drive away her fears and made the rest of his journey to Heassly's in a more dignified manner.

Miss Mackness, from Austin, spent a day at the college while visiting Miss Moore.

Merrit declares that when Miss Sherlock is around, he has three serious complications, namely, palpitation of the heart, ossification of the head and paralysis of the tongue.

Jarviss, who started with the class last fall, but had to stop his work on account of sickness, is back again as strong as ever.

Dr. Fantus—"Next gentleman, what is Vinum Album?"

Cone—"It's an elegant preparation for internal use."

Dr. Fantus—"Next, what gives it its peculiar taste?"

Van Buren—"Lactic acid."

Miller had the misfortune to have his face badly burned while working in the chemistry laboratory. He put a part of his unknown in H_2SO_4, in trying to get it in solution. The result was the contents of the test tube flew in his face. One side of his face received it all and is deprived of a large amount of skin.

NEWS ITEMS.

Cards bearing the following, announced the opening of the new Physilogical Laboratory on the 4th day of the current month.

College of Physicians and Surgeons, College of Medicine, University of Illinois.

The physiological laboratory will be open for inspection to the faculty and students of the college on Monday, February 4th, from two to five p. m. A number of representative experiments exhibiting the extent and character of the equipment and illustrating the more important methods of work will be in progress. You are cordially invited to visit the laboratory on this occasion.

The A. A. has, no doubt, seen the last days of "all down," now that the old lecture chairs which so long did service have been replaced by benches which gives the amphitheater near the roof a most pleasing appearance.

This change was made during the week's vacation of January 26th, and February 4th. The benches are in twelve rows, placed six to either side of a middle aisle and will readily accommodate in seating capacity any one class in the college.

On Friday evening, February 8th, a concert was given in the Auditorium Recital Hall, by the faculty and pupils of the "Western Musical Academy," under the direction of Dr. M. J. Seifert, of the Senior class.

The hall was fairly well filled with a sympathetic audience, many students of this institution being present, and the individual performers generally received a merited flattering reception.

Alice Borgmeier gave a fine rendition of Beethoven's "Moon-

light Sonata" and later gave the "Allegro Maestoso" of Liszt's "Concerto in E flat Major." Her playing was precise, musical and almost unexceptionable. Miss Borgmeier, is a pupil of Dr. Seifert, having taken no lessons from any other instructor, she reflected great credit upon her teacher by her fine work.

The rest of the program was well balanced and pleased the audience. The rendition of Messner's "Waldnymphe" by Dr. Seifert, Prof. Halamicek and Mrs. M. J. Seifert, deserves special mention.

It was a most delightful musicale, and while we congratulate Dr. Seifert upon his success as "the doctor in music" we wonder why this institution, will invariably, when in need of music for its various functions, such as graduations, etc., employ outside talent, when we have in our own ranks such exceptionally fine musicians.

THE FIRST CASE; AN OBSTETRICAL BALLAD.

In hours that brim with memories, with pleasures past beset,
There still are some few little things we sooner would forget;
Of both, as I look back ten years—it only seems a week,
Of both the tragic and the gay, I shall a moment speak.

The other little matter is the sort one would forget;
I do not tell it frequently—I never told it yet.
The first case that I had was not what one might call a case,
Because I never really met the patient face to face.

"Gee whiz!" the husband said, when I appeared before the same,
"I thought you were a doctress—isn't Ezra a woman's name?
The wife she wants a female—woudn't have no other brung—
And then besides your being a man—you look so gol darn young!"

I nursed a longing for revenge six weeks with morbid mind;
And then I had my vengeance on the "cruel of my kind;"
A dissolute young carpenter (who led a troubled life)
Prayed me upon his hands and knees to come and see his wife.

The husband left me at the door, and I went in instead.
With an enlarged abdomen she reclined upon her bed;
Her mother, dropping tears and rags, tramped up and down the room,
While I upset a pot de chambre. and tripped across a broom.

"My good soul, let me see your tongue!"—her pulse I also took;
But 'twas a different region that the mother wished to look;
"O Lord," she said, "put up with that; are you a doctor, say,
And don't observe the poor, sweet lamb is in a family way?"

"Madam, enlightened doctors always in this way begin—
I now will carefully proceed to—see what is within."
"O mamma," next the suffering wife her parent did implore,
"I don't think that this doctor ever had a case before."

Enlightened doctors usually," I said with scowl severe,
"First diagnose you there before they diagnose you here.
Aha! 'tis hydrocephalus! The chances now are grave;
Nothing can save this infant's life—but yours I'll try to save."

"Bear down a little more, poor dear," the mother interposed;
"No, not so much, I tell you, for the os is—nearly closed—
Be still—by Jove! you've done it now!"—"Done what?" the mother said;
"The sharp coccygeal bones," I hissed, "have tapped the offspring's head."

"I tell you it's the waters broke,"—"I tell you that it's not—
She bore down, and she smashed its head—the only head its got.
But stay!—perhaps you're right, for now, after the bag is burst,
I notice there's another head, and smaller than the first."

"Perhaps it is her maiden-head." the jeering mother cried—
"There, take a little drink, poor dear, and I'll sit by your side."
"I think it is a maiden's head," I muttered in a minute;
"Where is that flannel that you had—you'd better wrap it in it."

"Of all the doctors in the town, for that dull man to bring,"
She shrieked again; "will you, or I, tie up its naval string?"
Next thing the raptured grandmother with lard had rubbed it down,
And from the woodshed called the father to behold—his own!

The two then to the kitchen went, where loud the infant bawled;
And I approached the mother once again—and grew appalled;
For there I found another head (exactly like the first),
But hardly liked to handle it, for fear that it would burst.

I reached out for the vaseline, and in a moment more,
A second infant sprang to light with an astounding roar.

Amazed at the phenomenon, I had sufficient sense
To tie the cord, and see in all the hand of Providence!

Meanwhile the firstborn yelled so loud, they did not hear me call,
Thinking the second's squalling but an echo from the wall;
I wrapped it in a petticoat, and to them went with it,
That shut the hateful mother up—and sobered him a bit.

"This is your work" (she turned on him); "this is your work, I say;
And the poor dove half-dead with care, and no rest any day!
This is the sort of man that you have proved yourself to be!
My God, you men, you men, have you the face to look at me?

But it shall not occur again—and you shall sweat for it——"
The husband here emphatically, but briefly, answered "Nit."
And I went back, and for the after-birth performed my best—
See fairplay (if you have your copy still) for all the rest.

The dissolute young carpenter to whom I sent my duns,
I was not long in learning, did not chance to be in funds;
And so to settle up the score he built—deride him not!
A little wooden building at the rear end of my lot.

—Canadian Jour. of Med. and Surg.

Member of Congress for nearly 20 Years.

Contains twenty four large Photo-gravure Etchings from the paintings endorsed by the families and near relatives of the Presidents Printed on heavy plate paper, embossed. A very large book; title page designed by Tiffany. Biographical sketches printed in large, open type in two colors The greatest work of the 20th Century. So beautiful that when President Mc Kinley saw it he subscribed immediately. One agent selling 600 copies in small territory in Pennsylvania. A million copies will be sold quick. Fortunes will be made this Inaugural year. High class man or woman of good social standing can make a little fortune in this territory. Territory is going rapidly. Presses running day and night to fill orders.

Wanted.—State Manager to look after correspondence and agents.

Address today **THE CONTINENTAL PRESS**
CORCORAN BUILDING,
Washington, D. C.

Thurman Bro.'s

279 Ogden Avenue,

Barber Shop,

Only first class Workmen Employed.

Laundry in connection.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. MARCH 20th, 1901. NO. 11

IMPORTANT PRACTICAL POINTS TO BE BORN IN MIND IN OPERATING FOR THE RADICAL CURE OF HERNIA.

By Dr. A. J. Ochsner.

The success or failure in operations for the radical cure of hernia depends to a great extent upon a few very simple conditions. Some of these apply to all forms of hernia, others to the special varieties, on account of anatomical peculiarities.

The most important conditions of the former class are, first, asepsis. A wound which has healed primarily is much more durable than one which has healed with suppuration, because in the first there is less cicatrical tissue, which is the least permanent tissue we have to deal with. Second, the stitches should be tied just sufficiently tight to bring the tissues in apposition, but not tight enough to cause pressure necrosis, because at every point where a stitch has caused pressure necrosis there will be a point of weakness, which will favor recurrence. Third, all soft connective tissue and fat should be removed from the edges to be united, because their interposition always results in a union which lacks firmness, Fourth, the wound should be thoroughly supported by means of broad adhesive straps, because the newly formed scar is likely to be weakened by the coughing, vomiting or straining of the patient. Fifth, the patient should be kept in the recumbent position sufficiently long to permit the wound to become firm. And sixth, the necessary precautions should be taken to prevent abnormal intra-abdominal pressure after the

operations i. e., constipation should be avoided, urethral strictures should be treated, indigestion accompanied with gaseous distension should be relieved and the patient should be dieted to prevent obesity.

SPECIAL CONDITIONS.

These will be considered in connection with each of the four usual forms of hernia in the order of the frequency of their occurrence.

1. Inguinal Hernia.

In inguinal hernia, first we should carefully remove the entire hernial sac quite into the peritoneal cavity in ordinary cases. In very large hernae of long standing, it is necessary only to remove the portion of the hernial sac in the inguinal canal again, being careful to dissect it up thoroughly into the peritoneal cavity.

Second, in these herniæ it is especially important to dissect away all the loose tissue between the layers to be united, namely, to the transversalis and internal oblique muscle on the inner and Poupart's ligament on the outer side of the inguinal canal.

Third, it is in the upper portion of this canal that recurrence always occurs in case of failure of a permanent cure, and it is therefore most important to unite the internal oblique and transversalis muscles to Poupart's ligement as high up as there is any separation of these structures. It is in this point that the operation described by Professor Ferguson excells all others.

Fourth, in inguinal and in femoral herniae a very long, narrow portion of the omentum frequently predisposes to recurrence. This should be resected whenever present.

2. Femoral Hernia.

In this form of hernia the opening through which the hernial sac protrudes, the femoral canal, is almost a perfect ring in most cases. It is a well-known fact that it is practically impossible to keep any ring in the human body open unless it is lined with mucous membrane or with a serous membrane containing fluid; consequently, the most certain method of closing this ring consists in removing the serous membrane by removing the hernial sac to a point within the abdominal cavity and permitting the ring to close spontaneously. After applying this plan to a large number of femoral herniae, I am convinced that it is quite as impossible to keep this ring open unless it is distorted by one of the many methods which have been devised for its closure, as it is to

keep any other ring or canal not lined with mucous or serous membrane open. In other words, all of the methods which have been devised for closing this ring are more or less harmful, and tend to cause a certain number of recurrences. Of course if the ring has been injured during the reduction of a strangulated hernia, which could not be accomplished without cutting the ring, then this injury must be repaired in order to restore the original favorable conditions.

3. Ventral Hernia Following Laparotomy.

In this variety of herniae in whatever portion of the abdominal wall it may occur, it is always best to lay bare each one of the anatomical layers, to pass deep stitches of silk-worm gut through all of the layers down to the peritoneum and to leave these untied, then to suture each anatomical layer separately with chromicized catgut, and then to tie the deep silk-worm gut sutures.

4. Umbilical Hernia.

If possible all of these patients should be dieted in order to reduce the fat in the abdominal walls. Then the hernia sac should be dissected out, and then one edge of the ring should be drawn in under the opposite edge, either from above downward or from side to side, for a distance of one and one-half inches, and sutured in place by means of a number of interrupted sutures of chromicized catgut. In this manner the strong fascia in the edge of the hernial opening is doubled and will be able to resist the pressure. The conditions here are quite different from those in femoral herniae, because there is strong tension in every direction, and at the same time severe intra-abdominal pressure at right angles to the opening in the abdominal walls.

If all of these practical points are considered, the percentage of recurrences in all of these forms of herniae is very insignificant.

SOME MOOT-POINTS IN THE MANAGEMENT OF FRACTURES.

By Dr. Chas. Stoltz, South Bend, Ind.

No other surgical difficulties come so universally into the care of the general practitioner as fractures; and none require more careful and judicious treatment. Yet, so many discordant opinions develop in their practical management, and such faulty notions concerning them are acquired by the laity, that virtually all surgical malpractice suits arise from the treatment of these more or less serious lesions; and there is scarcely a phase of this species of litigation that cannot with equal vigor be advocated by both plaintiff and defendant. The literature of fracture treatment is likewise, a long serial of conflicting or divergent opinions as to management and results. Hippocrates, more than twenty centuries ago, laid down many of the safe rules of procedure, while some of the most pungent open questions confronting the conscientious surgeon of to-day may be found noted in the writings of this ancient master.

Hamilton in his classical work, discoursing on the reduction of, and devices for the fractured clavicle, says: "A catalogue of the names only of the men who have on this simple point exercised their ingenuity would be formidable, nor would it present any mean array of practical skill." As much might be said of other regions, especially the hip, elbow and wrist.

SPLINTS.

Court records are replete with actions for damage, in which the result hinged, not on the intrinsic difficulties of the case, not even on the surgically good results obtained, but rather on testimony that this, that, or the other splint had been used or not used.

One of the most persistent and troublesome conditions, therefore, in the management of fractures, affording no small source of danger in a forensic as well as in a therapeutic way, is the multiplicity of orthodox splints and their advocates.

Given a fracture in any of the long bones in which the diagnosis is as complete as possible, and barring the absence of serious complications, the main requisite which the surgeon has to

meet is to bring the bone to its linear continuity, avoiding the interposition of space or tissue between the broken ends. This can usually be accomplished with very little manipulation, if a simple knowledge of the anatomy of the region be exercised. The limb should be put at once in the position in which it is to heal. An uncomfortable position is usually a faulty position.

The splints or retaining dressings may be simple, light and comfortable, and can usually (the temporary ones at least) be of such materials as an household affords. Among these may be mentioned, according to the requirements of the case, paper-board, cigar boxes, sand-bags, half inch siding, strips of tin, copper or leather and the oft forgotten but ever present blanket-splint.

In any event the splint should be fitted to the limb—not the limb to the splint, as is usually necessary with a prearranged fracture appliance. Some one has said somewhere that all formal splints are a "delusion and a snare and conceived of the Devil. There may be a few exceptions, but I think the assertion is a true one. I have never yet invested a single penny in ready-made bunglesome fracture apparatus, simply because I have never yet found a fracture that I could not manage as well or better without. There is usually no trouble to keep adjusted the ordinary cases, while the extraordinary ones require extraordinary ingenuity and mechanical skill which none can supply ready-made or in the absence of the patient.

SHORTENING AND BAD CONTOUR.

These are sometimes vexatious results following the treatment of a fracture. They are usually *not* the fault of the surgeon, although in the courts they are easily made to appear so The conditions on which they depend, when they do occur, are usually intrinsic to the patient or in the nature of the injury.

Generally they may be traced to one or more of the following factors:

1. Congenital asymmetry existing, but unobserved, before the fracture occurred.
2. Previous deformity, or, injury to trophic nerve supply.
3. Impaction or compression with destruction of bone.
4. Undue and persistent muscular rigidity, especially when associated with very oblique fractures.
5. Epiphysiolisis (in the young.)

For medico-legal as well as for diagnostic and therapeutic reasons, the surgeon should never undertake the management of a broken limb without first carefully noting and measuring its fellow.

Two years ago last Thanksgiving day I was called to treat a ten-year-old boy who had been injured in a juvenile game of foot ball. I found a transverse fracture of the right femur at the junction of the upper and middle thirds. The boy was lean, making diagnosis and reduction easy. Careful measurement showed the limb to be fully a half inch longer than its sound fellow, without using any weight or extension whatever. The bone healed well, and the limb has, as might be expected, as much lengthening as there was at the time of fracture. It simply happened that the boy's legs were of unequal length, and the longer was broken. Was it my duty, as some contend should always be done in fractured femur, to put on a weight and pulley? I think not. Had the shorter femur been broken instead of the longer one, would it have been my duty, as some contend, to draw out the limb, by forcible extension, till it equalled in length its longer fellow? I think not. Congenital asymmetry has, so far as I can find, received very little consideration in the literature of fractures. Some surgeons have claimed an actual elongation of the thigh by the use of continuous traction; and these same ones usually so absorbed in universal forcible extension blame the attendant in cases of shortening. I doubt seriously if any person can endure the physical torture incident to pulling the muscles of the thigh three-fourths of an inch beyond their normal length in the healing of a fractured femur. And it is very probable that those who find so much elongation pursuant to fracture failed to consider at all the previous length of the limb.

For years I have made measurements of the lower extremities whenever opportunity afforded, and at my suggestion some of my colleagues in South Bend have done likewise. The results have sometimes been surprising. As Treves suggests in his little work on Surgical Anatomy: "It can easily be proven that both legs are of equal length in only about ten per cent. of all human beings, the difference amounting to sometimes more than an inch."

I can call to mind a young man, a bookkeeper, measured by Dr. J. B. Berteling, and shown to have a natural shortening of more than an inch in the left tibia and fibula alone, without any

difference existing in the thighs. This gentleman used to have trouble with his tailor but has no limp. Such congenital shortening is more often found, and is of more import in the femur than anywhere else.

I wish, therefore, to take issue with those who (like J. W Mayo in the *Jour. of the Am. Med. Assn.*, May 28, 1898), assert that a shortening of three-fourths of an inch, after fracture of the femur, "constitutes the greatest diaster," in-as-much as it "causes a limp, pelvic droop, and compensatory spinal curves." Those who never have shortening in a broken lower extremity, and especially those who are ready to fly into the witness stand and assert the great disaster which follows such shortening, might well examine a number of normal individuals. Pelvic droop and compensitory spinal curve would be found somewhat common.

Shortening due to previous deformity may become evident only after fracture. This may be dismissed with mere mention. But such a condition should always be looked for and verified in the presence of witnesses.

Impaction and fracture with crushing of bone must often end in a shortened limb. Especially in the latter "the result is equivalent to an actual loss of tissue; that is if the main fragments are replaced in their original positions a gap is left between them, corresponding to the position and extent of the crushing. This gap is often too large to be filled by new bone during repair; consequently a full correction of the displacement is inadvisable, even when possible, lest failure of union should result." (Stimson "Fractures and Dislocations," p. 28.) The lesser of two evils would, therefore, be union with deformity of shortening. Injury to the epiphysis in young persons is, of course, a well recognized cause of shortening in the long bones. In Indiana the brief statute of limitations—two years—would probably preclude medico-legal difficulties. (Some States allow a much longer time to bring suit for personal injuries.) However, if the physician has not properly fortified himself by the warning that bone growth will be retarded by such an injury, much damage may result to his reputation.

It follows then, that shortening *per se* should never be taken as an indication of unsurgical fracture treatment. It may indeed be a sequel of the best and most conservative treatment. And no one can dogmatically state that in any given case it should not

have occurred, unless in making up a judgment the previous length of the limb has been ascertained and all the conditions of the injury have been considered.

Dr. H.T. Montgomery told me recently of a case occurring in his early professional career, which might have brought some local reproach upon him had he not noted carefully both legs before reducing a fracture in the one. He treated a simple fracture of the right tibia and fibula in a youth residing some miles from the village in which he practiced. The patient being extremely bowlegged, he over-corrected somewhat. After an ordinary course of attention he dismissed the case as cured. A couple of years elapsed with no response to bills sent. He finally called personally for settlement. He was received by an angry parent, who with profane emphasis denied payment, alleging the treatment to be faulty and the leg crooked. In corroboration, the youth exhibited his *left* leg which was, of course quite curved. With fortunate presence of mind, my friend reminded them that it was not the left leg, but the right—the now straight one— that had been injured. With one straight leg aquired the entire family had forgotten about the congenital bowlegs. The error was acknowledged, and payment promptly and cheerfully made.

SLOW UNION.

When should union be expected in any given broken bone? When, after union has taken place, may *bony* union be expected? Or, in other words, when may the fractured part be expected to again perform its ordinary functions? Under the most favorable conditions the healing of a fracture is a matter of only a few weeks— four or five for clavicle and forearm, to eight or nine for the femur. But when delayed union or non-union occur, then we have a complex problem indeed; and I need hardly refer to the many well-known contributing causes, both intrinsic and extrinsic to the patient.

For anatomical reasons, the humerus is most frequently the bone in which delayed or non union takes place. Yet, on the other hand, we may here note some surprisingly rapid recoveries, and moreover, we may here remove our dressings with more certainty, for we can usually obtain a more accurate test of results.

Some years ago I delivered a young primipara of a healthy, eight pound baby, whose right humerus I fractured below the mid-

dle, while extricating the sholder. To my great chagrin I had not located it until the next day, though my suspicions were aroused, for I had heard something snap and had, just after delivery searched all about the sholder for some injury. I applied a simple bandage, immobilizing the arm in a comfortable position. I was pleased to recognize good firm union in three weeks, and in a few days more the little member was as lively and unrestrained as its fellow.

In Gurlt's collection of fractures from muscular action he mentions one in an athlete of thirty-four years in which the humerus was broken just below the insertion of the deltoid: Complete recovery in six weeks.

These recoveries must be considered as made in the shortest limit of time.

Aug. 27. 1893, I was called to treat the broken arm of D. P., a boy of six years. After reaching the patient and finding both bones of the right forearm broken I was informed that this was subsequent to a fracture at the same place just six weeks previous. The dressings under the care of another physician had been removed a few days before and the case dismissed. I applied a paste-board splint, and later a light plaster one, which was allowed to remain to the end of seven weeks. One week later, with his arm in a sling, he climed upon a pile of potatoes, and, rolling down, again broke the arm at the same old site. This time after reduction, I continued the splints for ten weeks and had no further trouble. Since beginning this paper I sent for the boy to come to my office in order to note any defects which might exist. It is absolutely impossible to tell which arm has been injured.

R. E. G., school teacher aged 32, was brought to me Aug, 28 1899, from a village some miles distant, suffering intensely from a badly infected compound fracture of the right forearm which he had sustained one week previously. He had fallen from a wagon load of drain-tile, breaking the radius three inches from the lower end. The ulna had been pushed out two inches through the palmar surface of the wrist, surrounded by dirt, and denuded of its periosteum. There was also, as subsequent events proved, an incomplete longitudinal fracture or fissure at the end of this bone.

For several weeks there was little to do but relieve, by free

openings, the infection which threatened not only his arm but his life. The fragments of the radius were bathed in pus and evidence of union remained absent. November 7th I sawed out two inches—the necrosed end—of the ulna, and did a general cleaning up operation under anaethesia. I was tempted to wire or peg the radius, and could easily have obtained the patient's approval for so doing. However, hoping that union might still take place I satisfied myself with thus merely reducing the extent of infection. Since that time firm union has taken place and he has gone back to his work in the school room with a fairly useful arm. There is a small sinus leading from the seat of fracture in the radius, probably indicating the presence of a loose splinter or sequestrum of bone. This may require my attention later.

Stimson (p. 337) tersely says: "A simple fracture (of the femur) without displacement, or suitably reduced, will usually consolidate in six or seven weeks sufficiently to allow the patient to get about on crutches, and he will be able to bear his weight safely on the limb, and to discard his crutches in three or four weeks more."

Personally I scarcely feel like taking chances on allowing so short a time in general practice, having had some experience which admonishes me to enforce longer restraint.

W. B., farmer and teamster, aged 45 years, on December 12th, 1895, fractured his right femur at its middle, transversely or nearly so. With the assistance of Dr. J. W. Hill, I placed the limb comfortably in a long splint, getting good, firm union in six weeks. At the end of the eighth week he got about nicely on crutches. One morning in the tenth week he lost his balance and fell, refracturing the bone. I put him back again into the same dressing and kept him under restraint for twelve weeks. The ultimate result was good; but I never did any more work for that family.

Van Oven, according to Stimson (p. 42), reported a fracture of the thigh sustained by himself, through muscular action, giving the time of complete recovery as four months.

In April, 1898, Dr. J. W. Hill and myself assumed jointly the management of L. P., Swedish laborer aged 50 years, who fell twenty feet sustaining a fracture of the left femur at the neck. He died in six weeks of pneumonia. Post-mortem examination showed, somewhat to our surprise, good and firm union. Nor

was it an impacted fracture. Of course, in fractures at the hip we shall always be at sea; here more than anywhere else, each case being a law unto itself. And here is the one place above all where the risk of non-union or any other kind of prospective deformity must sometimes be subordinated to the danger of such a result as we had in the last mentioned case.

But in almost any other bone the path of safety lies along the line of late removal of the supporting splints. And, moreover, I am convinced that some cases of faulty union, and union with deformity, might be avoided by the longer continuance of restraint.

ANKYLOSIS AND PASSIVE MOTION.

These come in for a large amount of controversy in connection with fracture management, the fear of the former making many strong and persistent advocates of early performing the latter. In the text books and clinical teachings on this point we are beset with much confusion. Recognized authorities of like high standing differ materially as to when passive motion should be commenced. In fractures at the elbow, for instance, some advocate passive motion within a week after the injury. Among the authorities for this I might mention besides many others, DeCosta, of Philadelphia, and Fenwick, of London. And, George R. Fowler. writing the article on "Surgical Malpractice" in Allen McLane Hamilton's "System of Legal Medicine" (p. 616, vol. II) insists on passive motion and massage in ten days; adding, however, that the surgeon cannot be held responsible for ankylosis resulting from vicious callus.

Others, however contend that under no circumstances should it be done under five weeks. For this may be mentioned such authorities as Stimson and Mansell Moullin, who teach that the bones should first unite before massage and other interference is begun. Excepting in most fractures near the wrist, I have long since abandoned early passive motion, and I have had no reason to regret it. In two recent fractures into the elbow joint, the patients being girls, I was particularly anxious to get shapely arms, and therefore interfered the minimum with my dressings after proper adjustment of the fragments. Both are now well, and motion is perfect, while the contour is much better than might have resulted with persistent interference and loosening of the fragments.

In the boy, D. P., already referred to as having had his arm broken thrice in succession after each time healing, there was no trouble with the adjacent joints and the *muscular* ankylosis soon disappeared also; although it was necessary to immobilize them more or less completely for a period of over twenty weeks.

I may also say that in W. B., the above mentioned case of refracture of the femur, although the hip and knee had been completely immobilized for nearly twenty weeks, complete and healthy restoration of function took place as soon as he commenced active exercise sufficient to liven up the muscles

A careful study of the situation is very likely to relieve us of most of the terrors of "ankylophobia;" for the causes which bring about ankylosis are almost invariably of two intrinsic kinds: namely, inflammation and disturbance of nutrition. Rest or long continued confinement is probably never a cause alone of ankylosis, but must be accompanied by trauma, irritation, or injury to the trophic nerves. "The criterion," says Stimson, "is a plain one: so long as the joint is swollen and hot, so long as its use is followed by an increase of swelling and heat, and by persistent pain, so long must it be kept at rest, and so long must active treatment be limited to massage or elastic compression, and, as a rule, this attitude of non-interference may be maintained until after union of the fracture has become complete."

Reyher, according to Warren ("Surgical Pathology," p. 627) experimented on dogs with plaster bandages, "keeping the joints confined during periods varying from ten to three hundred and forty-three days. Until sixty-two days had elapsed he found no change in the joint. After that time the first changes noticed were a shortening of the ligaments and of the capsule at those points that were approximated by the enforced rest. Later the capsule was found thickened by fusion with the indurated tissue which surrounded it. The synovial membrane, however, remained normal. There was no sign of inflammation. In joints that had remained immobilized for a year those portions of the joint cartilages which were actually in contact remained unchanged, while the portions that were not in contact had undergone degenerative changes."

It seems, therefore, that we have little to fear from long-continued immobilization in any ordinary fracture; and, moreover, in fracture into or near a joint we are beset with a greater

danger of bad or unshapely union by the practice of early passive motion, because of disturbance of well adjusted fragments. And if serious trauma have occurred within the joint we may even unwittingly promote the very object, we are anxious to prevent by keeping up an irritation, and by augmenting the formation of excessive callus in or near the articulation.

ABDOMINAL VERSUS VAGINAL HYSTERECTOMY.

By Henry O. Walker, M. D. Detroit, Michigan.

Professor of Surgery in the Detroit College of Medicine.

The question of the best approach, surgically, to the uterus and adnexa has evidentiy not been settled judging from the amount of discussion of late upon this important subject.

Whatever I may offer will not likely be accepted by those who may be advocates of either one or the other methods. It is simply a question whether you can do best what you see, or what you do by feeling and groping largely in the dark. In other words it is working in a light or dark passage. I take it that no operator would be so fixed in his views as to select one of these methods to the exclusion of the other. Removal of the uterus is done for the most part for carcinoma, and it is along this line that I will present the subject.

Cancer of the uterus is not an infrequent cause of death in women. Its early recognition and removal has been so generally recommended that nothing further can be said upon this point other than to dogmatically emphasize the fact. The question, however, of its recurrence is one of important consideration and is immediately connected with the method of its removal. The manner of recurrence of cervical carcinoma is either by. (1) Continuity, that is, by extension into the broad ligaments, vagina downwards and other contiguous parts, as the bladder and rectum and occasionally to the body of the uterus—the adenoid variety attacking the body primarily. (2) Metastasis through the lymph channels, and by distant direct implantation. Authorities are not agreed as to which of these two forms of recurrence is most frequent, yet this is not a point of importance, for it will be an impossibility to diagnose beforehand whether the recurrence is to take place by continuity or metastasis. We are to be governed in either instance by the method of operation that will

offer the best advantages in avoiding a recurrence; and in order to illustrate better what I wish to offer I will describe two pictures, cases that I have operated upon, one of abdominal hysterectomy and the other a vaginal hysterectomy.

Picture I—Abdominal Hysterectomy.—Mrs. M., aged fifty-seven, gave a history of pelvic trouble dating back to her last confinement when she probably had a left salpingitis. Menopause occurred at the age of forty-eight. For two years previous to the time of operation she had a vaginal discharge, bloody and watery, with an offensive odor of late, general condition fair, no cachexia. Vaginal examination revealed a ragged ulcerating os uteri together with an indurated and slightly fixed condition of the uterus to the left. Rectal and bimanual manipulation did not reveal whether the fixed point was extension of the disease (which the microscopist stated was carcinoma) or an old inflammatory exudate. Here was an undoubted case of carcinoma of the uterus not so far advanced but that surgical interference was indicated. In the opinion of the writer the abdominal route was the method that offered the best chance for effective work and assured the best interests of my patient. A long median incision was made and the patient placed in the Trendelenberg position. The omentum was found to be extensively adherent to the left. It was carefully separated from its attachment, ligated and portions removed. As I progressed I found induration extending along the left broad ligament, which was tied and cut away. The extension of the disease was downwards and in the mass was imbedded the left ureter. This part of the operation I scarcely need state required patient industry. I succeeded, however, in leaving the ureter intact and removing all tissue, glandular and otherwise, well beyond its environments. The uterus was removed in the usual manner, the vaginal opening in the peritoneum closed by two rows of interrupted catgut sutures. I forgot to state that the broken down cervix was previously cut away as much as possible, and the uterine cavity cureted to avoid septic infection. The abdominal wound was closed with interrupted silkworm-gut sutures without drainage. She made a proper recovery and it is now two years ago the 20th of May last since the operation was done and there is yet no evidence of recurrence.

Picture II.—Vaginal Hysterectomy.—Mrs C., aged thirty-seven mother of five children, labors easy, with history of continued

uterine hemorrhage not severe for the last three months, latterly with a bad odor. Examination revealed involvement of the cervix, afterwards verified by the microscopist as carcinoma. Bimanual and rectal manipulation did not discover any involvement of the surrounding tissues except an enlarged tube and probably cystic ovary. The vagina was capacious, the uterus low down and freely movable—as promising an opportunity for a vaginal hysterectomy as one could wish for. Operation was performed September 9, 1900, after two days' preparation in the hospital, short time enough in any abdominal operation when possible. There was no breaking down of the growth, and as the uterus had been cureted a week previous I saw no use in first cutting away the growth in the cervix. A curetment with blunt instrument was done with irrigation, and a carbolic acid tampon inserted into the uterine cavity. Chloroform was used as an anesthetic, the patient having been put in the extreme lithotomy position with a "Clover's crutch," The cervix was seized with a strong Museux forceps and a thorough division made of the vaginal membrane around the cervix well up above the seat of disease. Blunt dissection made anteriorly separated the bladder from the uterus and an opening was made into the peritoneum which was forcibly stretched with the index fingers so as to admit a good-sized pad. The same procedure was then done posteriorly, first tying the right broad ligament in sections well out from the uterus with a number three catgut ligature, then cutting it from its uterine attachment, and removing the right tube and ovary, which was accomplished with ease. The next step was the pulling down of the uterus and the application of a ligature on the left side. This was not so easy as I found an enlarged tube and cystic ovary with extensive omental and peritoneal adhesions. The former was tied and cut, while the latter was separated with tedious effort, during which time the cyst was ruptured, bathing the parts with its contents, evidently septic. I ligatured with difficulty the broad ligament in sections above the tube and ovary. The vaginal vault and peritoneum were approximated as much as possible, leaving an opening for drainage for the possible infection by the broken cyst and the considerable oozing that occurred, a wise provisions as it afterwards proved. The cavity was thoroughly irrigated and a gauze drainage introduced, the vagina being packed with strips of gauze.

I will state that the gauze drain was covered with gutta-percha tissue, a drainage that has served me best for several years in abdominal work where drainage was a necessity. The patient did well for seven days when she had a sudden chill and a rise of temperature to 103.5° Fahrenheit. This occurred the following day when I broke with my finger through the drainage opening an abscess containing two or three ounces of pus. Continuing irrigation and drainage she made a good recovery and returned to her home on September 30, 1900. It will be observed that I did not apply the clamp forceps in this instance which would undoubtedly have expedited the procedure very much.

A seven-minute vaginal hysterectomy with clamp forceps is a brilliant feat. Did any of you ever listen to the groanings of a poor victim with these implements of torture dangling between her legs while at every inspiration and any movement of the body she cried with pain? Furthermore, did you ever sniff the foul stench in connection with this method of controlling hemorrhage? Did you ever see a poor woman with a leakage of urine from her vagina the result of the use of these same forceps? Did you ever hear the telephone ring in the middle of the night informing you that your patient was bleeding to death when in the afternoon of that same day you had removed these forceps? Would any of you think that it was scientific surgery to leave several forceps in an abdominal operation to control hemrrohage except in an extreme case? I wish at this time to enter my solemn protest against this barbaric act of using clamp forceps in doing a vaginal hysterectomy.

These pictures present, I assume, the true aspect of the subject. The first picture portrays what I never could have done by the vaginal method. The second portrays what I could have done better, safer and surer by the abdominal method. I would not have you understand but that under certain conditions the vaginal route in pelvic surgery offers at times equal or better advantages than the abdominal route.

Conclusions.—All things being equal the abdominal route offers advantages for more complete hysterectomy than the vaginal route. First you are better able to control hemorrhage than by the vaginal route where you are working in a dark cavity; there is less liability of slipping of the ligatures, and if they do slip they are got at more easily than by the vaginal section;

third the danger to the ureters is minimized, and if injured the opportunity for repair is better, while if injured by the vaginal route you would have to do an abnominal section to make the repair; Fourth, the prevention of sepsis is more certain by abdominal than by vaginal section, aided in the first instance by the Trendelenberg position which gives opportunity for full protection of the intestines and peritoneum, while in the latter the opportunity for protection is limited, as it is an utter impossibility to render perfect asepsis in the vagina where there has been a long standing infectious disease.

THE PLEXUS

THE OFFICIAL ORGAN OF
THE COLLEGE OF PHYSICIANS AND SURGEONS
MEDICAL DEPARTMENT
UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.
H. C. WADDLE, '03, Editor-in-Chief.
Supt. W. H. BROWNE, W. T. ECKLEY, M. D., D. N. EISENDRATH, M. D.,
W. A. EVANS, M. D., THOMAS FAITH, M. D., A. GERHMANN, M. D.
Associate Editors. L. HARRISON METTLER, M. D.
Local Editor, L. H. S. FRECHTLING, '03

Class Editors:

C. W. BURT, '01, W. M. FRENCH, 02, R. L. ELDREDGE, '03
M. R. MARTIN, '04.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. COATES
Alumni Editor, DR. C. C. O'BYRNE, '94 Clinical Department, JOS. ZABOKRTSKY, '01
Athletic " R. C. CUPLER '01 Library Department. GRACE W. BRYANT.

Advertising Solicitor, GEO. E. ROSENTHAL, '02.
Publisher. - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE,** 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers will not hold themselves responsible for the safe return of MSS. unless sufficient stamps are forwarded

On July first, 1901 formal possession of the West Division High School will be taken by the College of Medicine of the University of Illinois. It is the purpose to move the entire Medical department from the building now occupied into the new location. Considerable money will be expended in remodeling and equipping the laboratories and at least two fine amphitheatres will be erected.

Great care will be executed in the apportionment of space a the growing needs of an increased number of students demand

larger facilities than could possibly be offered in the present building. With these increased facilities the College of Physicians and Surgeons will enter upon a new era, the scope of work will be broadened, classes will be sectioned, the work in the laboratories will be made more extensive and comprehensive, the general course thereby being greatly strengthened.

The new building fully equipped will be ready for occupancy by Oct. 1st 1901.

The Dental Department of the University, which has recently been established will occupy the present building which will be thoroughly overhauled and remodeled to suit the new requirements.

Further particulars as to equipment, arrangement of space location of library, dispensary, etc., will be announced in subsequent issue. W. H. B.

* * *

Dr. A, J. Ochsner, the author of the leading article of this issue of the PLEXUS, and Professor of Surgery in the College of Physicians and Surgeons, was born in Barabo, Wis., in 1858. He attended the country school, the high school, taught school for four years, and afterwards entered the University of Wisconsin, graduating from the General Science Course in 1884. He then entered Rush Medical College, from which he graduated in '86. The following year he served as interne in the Presbyterian Hospital. During his course in Rush Medical College and his interneship in Presbyterian Hospital he was instructor in Normal and Pathological Histology at Rush Medical College. Dr. Ochsner had prepared himself for this work in the laboratory of Prof. A. B. Birge, during his course at the University of Wisconsin. He spent two semesters in the medical department of the University of Berlin. After returning to this country he was appointed Chief Assistant of the Surgical Clinic, and Instructor in Surgery at Rush Medical College, which position he occupied for seven years—from 1889 to 1895.

Ten years ago he took charge of the Augustana Hospital, then occupying a little wooden building containing eighteen beds.

The surgical department was practically not in existence as only two operaiions had been performed during the previous year. Since then he has developed the present institution oc-

cupying a six-story. fire-proof building with 120 beds, a separate building for contagious diseases, and a nurses' home.

A little over two years ago he also took charge of St. Mary's —the Polish Hospital—at the time containing twenty-five beds. This has been increased to forty-five beds, and soon a large modern hospital is to be erected.

For seven years he has conducted a surgical clinic every Monday, Wednesday and Friday morning from 8 a. m. to 1 p. m. at the Augustana Hospital, and for two years at St. Mary's Hospital every Thursday mornings. These clinics have been very popular and have given Dr. Ochsner a far reaching reputation.

CLINICAL DEPARTMENT.

Through the kindness of Prof. Steele the students have been permitted to perform some of the minor surgical operations at his clinics.

The clinics at the County Hospital are supplied with abundance of material, of a varied character.

The following case is an interesting one from the fact that a second ectopic gestation occurred.

Prof. Steele's clinic March 9, 1901.

Case I Mrs. F. B. Civil state married, Age 23, occupation housewife.

Family History: Negative.

Personal History: Had small pox when a baby. No serious illness since. Married at the age of 16. Has one child age 7, and one one year old. Three years after birth of first child was operated on for tubal pregnancy and recovered without any complications, fifteen months later gave birth to second child. Normal labor, menstruation was resumed when child was five months old, then missed three menstrual periods and again menstruated normally. Since Jan. 21 1901 she has been flowing continually.

Present Condition: Pain in left iliac region. Has morning vomiting. Vaginal mucus membrane is violet colored. Bimanual examination reveals a soft but well defined mass about the size of an orange to the left of uterus.

Diagnosis: Left tubal pregnancy.

Operation: Surgical preparations. Incision in medium line. Blood clots were found on opening peritoneal cavity.

Tube greatly distended. Left ovary cystic. Both tube and ovary were removed after the arteries and pedicle were tied off. Abdomen closed in usual manner. A report has not been made on the finding in the tube as it put in process of hardening and will be examined microscopically.

A report will be given in next issue.

LIBRARY NOTES.

GRACE W. BRYANT, Librarian.

The following articles by members of the Faculty have been noted in the journals.

Dr. R. H. Babcock, Diagnosis of Pulmonary Tuberculosis, Gaillard's Med. Jour. Dec. 1900, p. 298.

Treatment of Chronic Myocarditis, Chic. Med. Recorder, Feb. 1901, p. 153.

Dr. F. G. Connell, Exstrophy of the Bladder (awarded Senn medal at the 51st annual meeting of the A. M. A. June 6, 1900,) Jour. A. M. A. Mar. 9, 1901, p. 637.

Dr. W. H. Jaques, Limitations of Clinical and Microscopical evidence, Chic. Med. Recorder, Feb. 1901, p. 111.

Dr. A. J. Ochsnər, Appendicitis and its treatment, Med. Standard, Mar. 1901, p. 125.

Dr. J. M. Patton, Chronic Myocarditis and Fatty Degeneration of the Heart varieties-etiology, Chic. Med. Recorder, Feb. 1901, p. 130.

Dr. W. E. Quine, Symptoms of Chronic Myocarditis and Fatty Degeneration of the Heart, Chic. Med. Recorder, Feb. 1901, p. 130.

GIFTS.

Dr. M. R. Brown 56 Jour. 2 Vol. 43 Pam.
Dr. W. L. Ballenger, 1 Vol.
Dr. A. P. Heineck, 1 Reprint.
Dr. Adolfo Luria, 1 Reprint.
Dr. W. A. Pusey, 3 Reprints.
W. B. Saunders, 1 Vol.
Newberry Library, Annual Rəport.
O. W. Rhodes, Illio, 1901.

NEW BOOKS.

Ballenger, W. L. & Wippern, A. G. Eye, Ear, Nose and throat, 1900. Dr. W. L. Ballenger, Donor.
Mracek, Franz. Atlas of Diseases of the Skin, 1900. W. B. Saunders, Donor.

SENIOR NOTES.

Notes for this issue have for some unknown cause been exceedingly difficult to collect. Outside aid was earnestly solicited, but of no avail. Every one has been kept too busily occupied this last month to deviate from the ordinary and become humorous. While the notes may seem to some to be conspicuously scarce and of little consequence, it is asked that that individual may lend a hand for the next issue and send in some locals or personals, and in that way contribute to the senior column.

The question which is circulating in the class at present is: "Have you been down to set for your picture yet"? Other questions are: "How do you like your negative"? "How many styles are you going to get"? "How many dozen are you going to order"? "Did you have any taken with cap and gown"? "Did you see the little bird"? "Did you look pleasant"? "Could you find a gown that fit"? "Did the photographer take pains with you?" etc.

On Feb. 19, 1901, Denny was seen smoking his second cigar. Denny manipulates the weed much better than in his first attempt. By the time he lights his third cigar perhaps he may be so proficient that he can retain the cigar in the mouth long enough to take two whiffs before removing it to expectorate." It is an ill wind that blows nobody a good."

Dr. Ochsner to Mr. Palmer: "What are some of the etilogical factors in Pruritis Vulvae"? Palmer—"One of the etilogical factors in a girl four years old might be an enlarged prostate."

Dr. Earle quizzing Mr. Kaiser: "What would be your first procedure if you were called to see a woman and she told you that she had pain in her stomach"? Mr. Kaiser—"Why, I would question her, and if I suspected pregnancy I would ask her if she was married."

Dr. Turck is giving some excellent and practical work in his Saturday lectures. This work is, of course, optional, but those

who attend his lectures go away feeling that the hour has been well spent. Dr. Turck takes great interest in his work, and endevors to make himself clear that he may be understood.

Now that most of the fellows have had their likenesses taken and wish no longer to retain their identity, but. on the contrary, to conceal the same, are taking advantage of the influence of these beautiful spring days in growing a beard. It is said that all green things come forth in the spring." Any style desirable can be seen upon the chin or face of some one member of the senior class. The predominating cuts are the "Van Dyke" and "A La Murphy."

JUNIOR NOTES.

Dr. Sanger Brown's pulpit is very high but its standard does not equal the first class course he is giving in medicine.

W. F. Mitchell attended the inauguration of President McKinley last Monday, he reports a pleasant time in his visit to the Capital City.

The recent notice giving list of names of those entitled to take advance work caused considerable chagrin and merriment. An average of ninety seemed to have been possessed only by a few but this was found not to be true by those who took the trouble to have their grades averaged. There was no justice in the report on the face of it and it has since proved a fake. The students who took the spring term with the intention of getting off senior work during the present term did not get a run for their money nor did they deserve this treatment. It would have been more reasonable if the College had stated the first of February instead of the middle of March who were entitled to take advanced work and what work could be taken. We understand, however, that the college was not to blame in this instance, but that the lateness of the credits were due to the laxity of some of its professors. A great deal of inconvenience for the students could be avoided if the professors would pass on the returns earlier so that the students could have them at the beginning of the term.

Kittler, Poinier, Shelton, Wilson, Gibbs, Hahn and Tyvann are taking Senior Obstetrics.

Aaron was confined to his room with tonsolitis last week.

Miss Freeman was reported very sick last week, she is not able to be in school at present

We understand that Court is on the sick list,

The wise gentleman who wrote the anonymous note giving the Professor instructions how to conduct the Course in Chemistry and Microscopy did not have the courage of his convictions or he would have showed his hand at the stated time even if he did not get the support of the class as he must have anticipated. Whether he aspires to be adjunct professor or whether he was seeking notoriety it matters not. It must be admitted he said some thiugs worth consideration.

The Course is a new one and in outgrowing its infancy it will certainly improve. The Professor of this Course has often repeated the fact that the Course was not conducte1 according to his wishes and that it was not possible to do so with the preseut state of affairs. The College has not the laboratory facilities at present to conduct the Course in a satisfactory manner and this is no fault of our Instructor. He is certainly giving us the best Course possible under the circumstances and if the person who wrote the note had appreciated this fact and had possessed a less exaggerated knowledge of his own powers he would not have shown the Professor the discourtesy he did.

The unfortunate Juniors who are taking Jurisprudence have received the aid of the Superintendent to assist them in their unequal contest with the powerful Sophs for the front row. The Juniors are to take the north east section of the lower amphitheater before the Sophomores appear on the scene and the Superintendent promises to be on hand to protect the small flock in the east corner. Mr. Browne is certainly the right man in the right place.

Professor—How would you treat acute arthritis of sholder joint?

Jennings—Immoblize and apply hot applicants. E. A. G.—suggests hot fomentations.

Dispensary Quiz.

Seigfreidt—Is it not true Dr. Curtis that in case of tape-worm that when pickles are eaten the patient will have stomach ache.

Dr. Curtis—More likely the worm would have it.

Smiley—How would you tell a male fern from the female variety?

Sheller—Examine the root-

Mrs. McCarty recently reported a case of salpingitis of the ovary.

One of the professors recently accused G. L. Miller of sparring for time. Miller's reputation for buncombe is increasing.

Feb. 18. Juniors met Seniors but not defeat.

Capt. Major rolled down east stairway with Kittermann on his neck, the latter landed on top. The captain lost his wind but not his temper. Frank hid behind closed doors to protect himself from Junior boquets. Big time(for the Juniors) much fun for those on the side lines. All caused by Newman losing his head and kicking the door open.

Big Chief No Hair has something more than the chair of Freshman anatomy he is calling the roll in Orthopedics.

℞

Hydrog, Chlor, Cors.	1
Glycerini.	5
Tinct. Canth.	20
Spts. Resorcini.	30
Spts. Vini Rect.	60
Aqua Rosae.	qs.250

Sig, apply twice daily.

SOPHOMORE NOTES.

Dr. Eckley gave us a demonstration of evolution a few days ago which was both exceedingly interesting and instructive, and furnished a bit of merriment as well. It all transpired up under the roof, in the room where benches were recently substituted for the old decrepit chairs, thereby adding to the comfort (?) of the "children" as our guardian familiarly calls us. The paraphernalia provided for the event included a large square of gauze, to which was tied an incandescent lamp. This was suspended from the wall behind the professor. Everything had progressed nicely to the point where the lamp was supposed to decend into the pouch of cloth in the professor's hand. Just at this juncture of proceedings an animated discussion on the rear seat, between the contingents from North Dakota and Florida, as to the best means of guarding against the frigid lake breezes, one side holding that a sweater was the best protection, the other declaring that by discarding his overcoat he had toughened his constitution

to the extent of resisting Klondike weather, caused the professor to pause, with the cloth held up to the gaze of the class. It was a fatal pause, for, as he faced about to ascertain the cause of the interruption, the lamp, which had become loosened through protracted manipulation, fell to the floor and exploded with a crash, frightening Mac so badly that he nearly dropped the pelvic model he had been holding for the last fifteen minutes. Possibly the gubernaculum contracted too suddenly.

There is no longer any doubt as to who is the "main thing." The umpire said it was Dakin, and of course it must be so.

Donkle admits he drinks milk—in fact has tried nearly every known variety.

Doran would roll the bread as soon as it had "risen" sufficiently, He might, perhaps, knead the pie crust.

Lipman has returned from two weeks' jury service.

Thomas, Nos. 1 and 2 were present, but which was which.

In order to make the paradox more complete Long makes his answers as short as his stature. But they were correct nevertheless.

Rightman doesn't doubt that he could figure compound interest if he had an opportunity.

We were informed that "Si" had formed a partnership, but on making further inquiries learned that it was only for the purpose of facilitating the work in bacteriology.

Superintendent Browne is still having his troubles. If you don't believe it ask him about the medical jurisprudence class.

FRESHMAN NOTES.

Coffin, Kay, Montgomery and Anderson are supporting bruised faces. We don't ask how they became so disfigured, and would hardly expect an answer if we did. The two latter hint that there were some pebbles in the gloves, while the former keep quiet, the marks on their faces would suggest that no gloves were used and they had had a "bout" woman fashion, namely, using their finger nails.

What makes Markley's hair turn gray so fast? Is it the grass widow?

Quite a dispute arose the other day in A. A. concerning the techniques of foot ball. Discussion ran high and opinions differed

very much, but all agreed that when Cormack stroked his upper lip it was a "touch down."

Shapeiro, commonly known as "Linimentum Calis," has been ill, but he pinned his faith to the linement and now has his smiling countenance with us again.

We are certainly delighted to have our senior brothers call in and laugh at us or sympathize with us, which ever their pleasure suits, but the continuous visits of one and his contiguous position to one of our fairer students leads us to suspect that not all our visitors call to see the class as a whole, but rather in part.

The following was donated by one of our worthy number.

SOLILOQUY OF A "D. J."

O what can we do through the long morning hours,
Away up yonder where the A. A. towers,
Where the pews are so hard that we can't dream of flowers
Of babbling brooks or shady bowers?

The only man we have caught asleep
On those hard benches, is Treiber, the Deep,
He was watching the clock, "How the minutes creep,"
Said philosopher Treiber, then fell asleep.

There's Rough house Taylor and Rough house Wall,
Rough house Carney and Rough house Bahl,
They used to have fun when the chairs took a fall,
But the pews have come over their joys like a pall.

We must have our nonsense, and have it we will,
We'll have all we can, tho' we can't get our fill;
Tho' it's bitter, uncoated, Browne must take his pill,
If *we* break the furniture, *we* pay the bill.

Now breaking the benches is not our role,
But a good spicy "pass up" will cheer a sad soul,
So we usually have one our "Chief" to extoll,
When he tries the experiment of calling the roll.

Upon the right side and round and round,
Up on the left side and down to the ground,
Only to touch it and then to rebound;
In his hand to the last may the roll call be found.

But a man in our class who is not on the square
Planned a mode of procedure that was not fair,
He ought to be punished, such doings to dare,
For passing a gentleman up by the hair.

To not be resentful or plan to pain,
Is only manly, our duty's plain,
So when you're outwitted "forget it." refrain
From holding a grudge till repaid, shine or rain.

So this will we do thro' the long morning hours,
Away up yonder where the A. A. towers,
We'll forget that our tubers of Ischeum are sore,
And in a warm "pass-up" we'll revel galore.

WILLIAM H. BROWNE,

Superintendent College of Physicians and Surgeons, Medical Department of the University of Illinois.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT OF THE

UNIVERSITY OF ILLINOIS.

VOL. VI. APRIL 20th, 1901. NO. 12

MANAGEMENT OF MEDICAL COLLEGES.

By William H. Browne.

Superintendent College of Physicians and Surgeons, Medical Department o the University of Illinois.

It is not my purpose in this brief article to assume the attitude of an iconoclast or to be hypercritical of a system of education to which, except within the last few months, I have been almost a complete stranger.

The school of medicine today, as in the past, occupies a unique position in the educational propoganda inasmuch as its course of study and methods of instruction (excellent in their way), are, and have been up to the present time, distinctly original. Perhaps this requires a word of explanation. In every college, high school or preparatory, instructors are supposed to possess the necessary attributes of educators, acquired by successful experience or technical pedagogical training. The profound principles of training the faculties of growing minds are exploited along sound and scientific lines; courses of study are arranged with a view toward the correlation of subjects and continuity of thought. Can we say this of medical colleges? Yes and no. The eminent surgeon, physician or diagnostician who comes before his class with a lecture complete and exhaustive in itself, may or may not be doing his class good all around the circle. It depends entirely on what has gone before, on the leading up to this point where the student's mind is in a healthy receptive condition to an appreciation of facts and data presented. Many men who have

attained high and honorable distinction in the practice of medicine and surgery are not from a pedagogical standpoint successful educators. The reason is that until very recently psychological principles, as viewed from a modern standpoint, have been ignored. Has any one ever heard of a training school for teachers in medical colleges? We take the liberty of quoting from an article written by Dr. Bayard Holmes, who evidently has given this matter time and intelligent thought. He says in part: "The better teaching of medicine requires smaller classes and more intimate association of teachers with a few students. The larger schools have too many students and too few teachers. Education is not so dependent on *buildings*, *books* and *demonstrations* as it is on the presentation of the living, growing student and investigator in the person of the familiar, enthusiastic and sympathetic teacher. The greatest and most important equipment of the medical school always was and always will be the medical schoolmaster, and the essential quality of the medical teacher is manhood—broad, well-developed manhood. To this must be added ability and even necessity to teach, and some knowledge of the subject." Excellent! A greater good to a greater number can be meted out in this way. Man has never engaged in a study more noble and profound than that of his own physical and functional structure. Why, then, should not the primary principles of education be applied, arrived at by intelligent thought and careful preparation. It would seem as if there is a possibility to make the four years of medical study required now to obtain a degree a splendidly rounded educational unit, in which from didactic and inductive standpoints the right subjects are introduced at the right time, under the skillful guidance of trained educators, who are also physicians. This should especially apply to the first and second years of study.

The medical student is a distinct species. He is a product of traditions which have clung around the preparatory steps of the profession from time immemorial. Imagining himself to be a creature of special privileges from a disciplinary standpoint, he does things which causes one accustomed to the order of procedure in other educational institutions to stand aghast. Why? The good Lord only knows! Is it an unhealthy sign? We answer in the negative; merely an evidence of "strenuous life," which if directed along legitimate lines would accomplish great things.

When one hundred and fifty husky, healthy men sit in an amphitheatre for from two to four hours at a stretch there is at times bound to be an evidence of uneasiness, to put it mildly. As one eminent member of the faculty recently remarked to me: "They must at times, Sir, give vent to some of their pent up enthusiasm or 'bust'". True, Doctor, but we sometimes wish that they, and not the seat that holds them, would "bust" and be done with. It would abate a nuisance and relieve our nervous tension. The student who is persistently and everlastingly crying "Havoc," and letting slip the dogs of war, should be suppressed and weeded out from a class, the majority of which, by a very large per cent, being here for business. With the permission of Prof. W. T. Eckley, we quote the following from a recent article by him on "Scholastic Pandemonium":

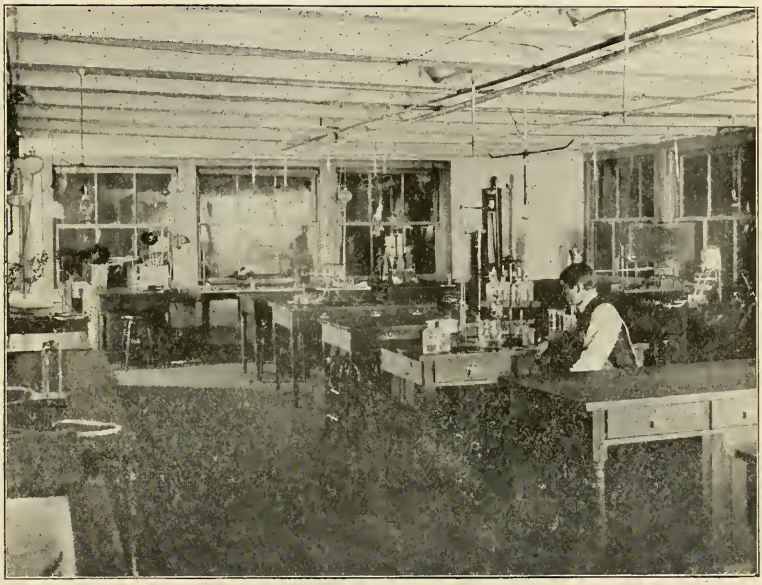
"In a class of 100 students you will find about two leaders in rowdyism. The rowdy instinct is soon spotted by the class, and the leaders in boisterous conduct, in spite of poor recitations and inferior mentality, are lionized openly and tacitly by class and faculty."

With all due respect to the Professor, we take exception to the "lionized" clause, as from experience we can state that the chronic "roughhouser" is rapidly becoming *persona non grata* with faculty, class and management; and justly so. By what title or privelege has any man or set of men the right to be a constant menace to the peace and dignity of his class or college? None, my lords and gentlemen! When a student enters college, matriculates and pays his tuition the compact between him and the institution should be distinctly reciprocal. The possession by him of a blue ticket does not in any way give him carte blanche to be destructive, uproarious and a nuisance generally. We agree with the above quoted Professor that "boisterous conduct" and "inferior mentality" usually go hand in hand.

> "He that attends to his interior self,
> That has a heart, and keeps it—has a mind
> That hungers and supplies it, and who seeks
> A social, not a dissipated life,
> Has business."

That "business" should be the getting of value received for time and money spent in the preparation for a life work. Not long since I was asked by a prominent educator why it is that the

same rules and regulations regarding conduct which are applied to other educational institutions are not applied to and practiced in medical colleges. Frankly speaking I do not know. There is no reason why they should not be. If there is any profession pursued by man under the sun that is better calculated to bring out and develop his instincts of honor, courtesy and gentlemanly conduct, we have yet to hear of it. When a student completes his course, receives his degree, and goes out into the world to practice medicine or surgery he should and does in nearly every case command the respect and confidence of his fellow-men. His is a noble profession and the prestige which goes with it is worth striving for. A word regarding my personal experience as superintendent of one of the foremost medical colleges in this country. Individually and collectively I have received courteous and considerate treatment from both the faculty and student body, for which I am deeply grateful. The ideas set forth herein are along general lines and have no specific application. With our own institution it would seem as if the future was very bright. With increased facilities as to lecture rooms, laboratories and equipment, the college should enter upon an era of enarged usefulness not to be measured by mere words. The practical and progressive men who form the bone and sinew of this great institution are not idle, and we trust it is no false prophecy when we say that in a few short years the College of Physicians and Surgeons will be without a peer in the land.



A CORNER IN THE PHYSIOLOGICAL LABORATORY,
College of Physicians and Surgeons, Chicago.

GEORGE P. DRYER, M. D.

Professor of Physiology, College of Physicians and Surgeons. Chicago.

THE PHYSIOLOGICAL LABORATORY.

GEORGE P. DRYER, M. D.
Professor of Physiology, College of Physicians and Surgeons, Chicago.

In the century lately come to a close, medicine has changed in large measure from an empirical art to an exact science. This transformation was brought about gradually by a process of slow growth and development, and is far from being complete; but in proportion as it progresses, the fundamental preliminary branches of medical science come to the front and receive their proper share of recognition and appreciation, thus enabling them to react in turn upon the system as a whole, and to contribute in no small degree to the general advance.

Modern educational systems are characterized among other things by the greater prominence given to the objective method in all grades of instruction from the kindergarten to the university. In medical teaching the same objective method, long in vogue in the practical branches in the form of clinical lectures, has more recently been extended to the scientific departments, and has found expression in the various laboratories attached to the better class of medical colleges.

The history of modern laboratories goes back to the year 1825, when Purkinje established his physiological laboratory at Breslau, the first public institute of the kind, antedating as it boes by a year Liebig's better known chemical laboratory at Giessen. While physiology thus enjoys the distinction of priority, it has been less fortunate so far as expansion and multiplication of laboratories is concerned. For many years this department was relegated to inadequate and out-of-the-way rooms that could not be used for other purposes, and not until 1866 was a building specially planned, constructed and set apart for its specific uses. In that year Vierordt's laboratory at Tübingen was completed; soon after Cl. Bernard's laboratory for anatomy and physiology followed, and a new era seemed to have set in. The number of physiological laboratories has grown steadily since that time, and practically every year has added to their number.

In America the status of physiology in the medical curriculum, though still far behind its deserts, also made gratifying and encouraging advances in spite of persistent and widespread misconceptions of its purpose, aims and uses, and of the serious prac-

tical difficulties in the way of adequate instruction in its principles and methods. When medical men come to recognize more generally than they do at present that pathological processes are often manifestations of cellular properties, which were acquired in the course of evolutionary development for physiological uses, and that the cells possess no other weapons than these innate properties to meet assaults from without to compensate lesions, to restore damaged and lost parts, they will cease to accuse the teachers and disciples of physiology of a disregard for the practical sides of medicine in the pursuit of their discipline as a science with the aid of accepted scientific methods.

The precedence of certain practical branches, such as bacteriology and clinical microscopy, over physiology in the estimation of both practioner and student can be easily understood. The former furnish helps of a mechanical and technicat nature, which become immediately useful in the practice of their art, while physiology represents rather a training of the mind that guides the hands. This higher purpose is not only less easily accomplished, but also less readily understood, and hence the persistent depreciation and neglect.

The practical difficulties attendant upon the laboratory teaching of physiology are also serious and weighty. The apparatus is varied and costly, the technique is tedious and manifold, and preliminary training in the natural sciences of physics and chemistry is indispensable. When in addition it is taken into account that experienced teachers can handle but a comparatively small number of students if good results are to be obtained, thus adding much to the cost of instruction, there is little wonder that progress has not been more rapid in the past. With a clearer comprehension of the value of physiology as such, and the conscious recognition of the fact that it is this science that furnishes the essential methods for experimental medicine in general, including pathology and pharmacology as well as physiology, the opportunity furnished by the adoption of the four years' graded course in American medical colleges is being rapidly utilized for the adequate representation of this significant branch.

The College of Physicians and Surgeons in accordance with its customary progressive policy recently added to its other excellent facilities "a modern physiological laboratory fitted up at large expense," to use the simple and unostentatious words as

they appeared in the nineteenth annual announcement. To the clear-visioned and far-sighted spectator who recognizes the full significance and import of this latest advance in its future influence on the educational development of the institution, this brief statement may seem inadequate and unworthy of the importance of the event and a somewhat detailed and explicit account of the outfit and equipment, of the aims and purposes of the new laboratory, will not be considered out of place at this time.

The physiological laboratory was formally opened on Monday, February 4, when the faculty and students of the college were invited to inspect the new department. A number of representative experiments, exhibiting the extent and character of the equipment and illustrating the more important methods of work, were in progress on this auspicious occasion. It is needless to say that the invitation met with an enthusiastic response and that a large number of friends of the laboratory were present. At such a time it is impossible to display more than a few of the more classical experiments. The endless roll kymographs, of which there are two, the sphygmographs, both radial and transmission, the tonometer, the spectroscope, the galvanometer, all these and more were in actual operation, and excited universal interest in the methods of physiology. A sphygmomanometer after Mosso's pattern, by which the blood pressure in man can be determined more accurately than earlier methods permitted, attracted particular notice on the part of the profession, standing as it does for that more immediately practical side of experimental physiology, which appeals to all and which rightly demands recognition in laboratories established in connection with medical schools. These illustrations indicate the general character of one part of the outfit, namely, that portion which was selected with special reference to lecture demonstrations and original investigation; it hardly gives a correct conception of its extent and scope. The initiated, in his tour of inspection, undoubtedly observed numerous familiar pieces of apparatus of a technical sort stored away in the instrument cases. A liberal supply of tambours of varying degrees of delicacy, the oncometer, the Hürthle spring manometer, Fick's arbeitsammler, various electrical measuring instruments, chronographs of different kinds, including the much-prized Jacquet instrument, etc., etc.; these and many more which go to make up a standard equipment can

here be found. Here and there notable omissions may possibly have been observed, but this should hardly require an apology when it is remembered that the laboratory is in its first year of development, a time when making haste slowly is a safe and wise policy. A part only of the proposed endowment has been thus far expended, so that a year's experience might be available in determining the ultimate selection of the remaining essential apparatus.

The department has been particularly fortunate in regard to that portion of the equipment which is designed for the practical work of the undergraduate classes. Mature experience in planning and conducting practical courses in physiology enabled the director at comparatively small expense to put in student's outfits of exceptional excellence as regards design and durability as well as convenience and accuracy of adjustment. Each of these sets includes in addition to the usual chemical apparatus and glassware the following special pieces:

A clock-work kymograph, a battery of two galvanic cells, an induction coil, two keys, a rheochord, a commutator, electrodes, three heavy base standards, two horizontal supports, a muscle clamp, a muscle lever with accessories, a moist chamber with two electrode holders, a double cylinder for temperature experiments on muscle with accessories, a heart lever, pulley, mercury mano meter with accessories, a test-tube recorder, a chronograph and an animal holder.

The laboratory has now been in operation but a few short weeks, and it would be premature to attempt any criticism of the work in progress. Of one fact, however, any one can easily convince himself by a brief visit during class hours. The students taken as a body manifestly work with an enthusiasm and zeal indicative of intelligent interest, and good results must inevitably follow. Physiological knowledge will surely become to them a more real and permanent possession through this actual contact with the facts in the laboratory, difficult and important points will be cleared up and emphasized by the properly selected practical exercises, and, what is more important still, the personal acquaintance with laboratory methods here gained, even though limited in range, will in the future enable them to read intelligently and with proper discrimination, the current medical literature. Laboratory training alone can furnish the correct

standards required in estimating the weight of scientific evidence and in assigning new observations and reported discoveries in medical science to their true position.

It must be apparent from this brief account that provision has here been made for all phases of physiological instruction. The undergraduate work in practical physiology as representing the most urgent need is receiving first attention. Lecture demonstrations are also regarded as of the highest importance, occupying as they do an analogous position in the scientific branches to that taken by the clinical lecture in the practical branches of medicine. Their value can hardly be overestimated, and it is proposed to develop them as speedily and elaborately as the facilities permit. Their preparation is extremely time consuming and requires skilled assistance, so that only a modest beginning is practicable under present conditions. Finally we look forward hopefully to the time when a small number of students endowed with natural propensities for this kind of work, and equipped with the necessary preliminary training, may be encouraged to take up more advanced work during their third and fourth years of residence and participate in original investigations and research. This latest addition to the educational forces of the college, so auspiciously inaugurated with the beginning of the new century, is surely pregnant with promise of good things to come, and there is every reason to hope that the results will measure up to the highest expectations and most ardent wishes of those through whose generous liberality and wise forethought the new facilities have been provided.

THE PLEXUS

THE OFFICIAL ORGAN OF

THE COLLEGE OF PHYSICIANS AND SURGEONS

MEDICAL DEPARTMENT

UNIVERSITY OF ILLINOIS.

Plexus Committee of Faculty.

T. A. DAVIS, M. D., D. A. K. STEELE, M. D., F. GREGORY CONNELL, M. D.

H. C. WADDLE, '03, Editor-in-Chief.

Supt. W. H. BROWNE, W. T. ECKLEY, M. D., D. N. EISENDRATH, M. D.,

W. A. EVANS, M. D., THOMAS FAITH, M. D., A. GERHMANN, M. D.

Associate Editors. L. HARRISON METTLER, M. D.

Local Editor, L. H. S. FRECHTLING, '03

Class Editors:

C. W. BURT, '01, W. M. FRENCH, 02, R. L. ELDREDGE, '03

M. R. MARTIN, '04.

Faculty Department, DR. W. A. PUSEY. Clinical Laboratory Dept., DR. W. E. C OATES.

Alumni Editor, DR. C. C. O'BYRNE, '94. Clinical Department, JOS. ZABOKRTSKY, '01

Athletic " R. C. CUPLER '01 Library Department. GRACE W. BRYANT.

Advertising Solicitor, GEO. E. ROSENTHAL, '02.

Publisher. - - - - - - H. C. WADDLE.

Subscription $1.00 per Annum in advance. Single copies, 15 cents. Issued Monthly Send all remittances and communications as to subscriptions and advertising to **H. C. WADDLE,** 813 W. Harrison St.

Entered at Chicago Post Office as Second-Class Matter.

Any subscriber desiring the Journal discontinued at the expiration of his subscription should so notify the Publishers; otherwise it will be assumed that the subscription is to be continued and the Journal sent accordingly.

Contributions of matter suitable for publication are invited, and should be sent in not later than the 25th of the month previous to that of publication. The publishers will not hold themselves responsible for the safe return of MSS unless sufficient stamps are forwarded

IMAGINATION IN MEDICINE.

Some shrewd Frenchman once remarked that most men have just enough imagination to spoil their judgments. The power of the imagination is the power to see things with the mind's eye, as we say. It is that faculty which, under the influence of the will, intellect and emotions, serves all three by bringing before them mental pictures. All other things being equal, the man who has a vivid imagination will be more successful in accomplishing his

ends than will one who has a less vivid imagination. The reason is obvious, for such a man *sees* beyond the present and he catches a glimpse of things beneath the surface. Many opinions to the contrary, notwithstanding, scientific men must needs be imaginative men. The atomic theory of chemistry, the principle of gravitation, the undulatory conception of light, the neuron theory in medicine, all demanded the exercise of a high degree of imagination upon the part of those who proposed them and ultimately established them. Theories and hypotheses are the offspring of the imagination. When theories and hypotheses are finally established as the result of the proving of them, and are finally accepted as the true explanation of certain natural phenomena, they are none the less the offspring originally of the imaginative faculty. The scientific worker who belittles the imagination and refuses to call in its assistance need never hope to discover any of nature's great laws or to move in the company of the greatest scientists. He may do good work, but he will be like the hewers of wood and drawers of water to the ancient Egyptians. He will amass facts, perhaps, as Tycho Brahe did in astronomy, out of which some Kepler later on will evolve the principles of the celestial circuits.

In the practice of medicine the cultivation of the imagination is eminently desirable, though, of course, the control of the intellect should always be supreme. At the bedside one must imagine the patient's condition; he must see in his mind's eye the disease process; he must have a clear mental vision, founded upon exact knowledge, of how his therapeutic measures are acting upon the internal organs and functions of the body. In proportion as he has this power of seeing with his imagination things not seen by the physical eye, will, all other things being equal, the practitioner be successful in his diagnosis and therapeusis. It behooves the physician, therefore, not to neglect the cultivation of his faculty of imagination. This may be done by a judicious study of poetry, art and the belles-lettres in general. This may explain the singular reply of the great Sydenham, who when asked by a student about to graduate to recommend some one good work for him to read as a young doctor, named Cervantes novel of Don Quixote as the best. L. H. M.

* * *

We were pleased to gaze upon a contract last week shown us

by Dr. D. A. K. Steele in which were set forth the conditions of sale and transfer of the West Division High School building to the College of Physicians and Surgeons. Formal possession will be taken July 1st, before which definite plans for remodeling and improving the building will be perfected. W. H. B.

* * *

Commencement exercises will be held on May 28 instead of the 29th as indicated in the prospectus. The change was found necessary as Studebaker's Hall in the Fine Arts Building, when the exercises will be held, could not be secured for any other date.

On Monday evening, the 27th of May, the Alumni Association will entertain out of town visiting alumni, the Senior class and their friends, at a smoker at the Sherman House.

W. H. B.

* * *

Dean Quine has appointed the following members of the faculty sub deans of the various classes: Dr. Frank G. Earle, dean of the Senior class; Dr. Sanger Brown, dean of the Junior class, Dr. Wm A. Evans, dean of the Sophomore class, and Dr. W. T. Eckley, dean of the Freshman class. The duties of these deans will be to bring the professors in their respective classes into closer touch, whereby discussions relative to affairs regarding instruction, class discipline, and general management, will be held frequently. This is a splendid arrangement, and much better results will be the outcome of the plan in all classes. It will unify the interests of all departments and aid in work of grouping and correlation of subjects. W. H. B.

Clinical Department.

PROF. BYFORD'S CLINIC, April 10, 1901.

CASE I. Mrs. T. K., age 31. Housewife by occupation, Married.

Family History: Negative.

Personal History: Began to menstruate at age of 14. Had inflammatory rheumatism when 18. Married at age of 27. Has never been pregnant. Has been troubled for several years with Leucorrhea.

Present Illness: About two years ago menses began to be of longer duration and flow increased in amount. About the same time she suffered from intense pain in lower abdomen, which was of a colicy nature, most severe on left side. At times she was entirely free from pain for several weeks, then again the pain would be constant for several days. (7 or 8 days.) A year ago her menses would last about two weeks. The discharge was of normal color. Six months ago the period became shorter in duration, but the discharge was and is now putrid and dark in color. She has gained about 40 pounds in weight during past two years.

Examination: Heart and chest, normal abdomen. In palpation a large mass in lower portion, which resembled an enlarged uterus. On bi-manual examination the tumor appeared to be attached to the left side of uterus.

Operation: Surgical preparation; incision in median line. Peritoneum opened between two tissue forceps. Internal examination revealed a large fibroid of left ovary about the size of child's head. The right ovary was degenerated. Both ovaries were removed after the pedicle and tube were tied off. The denuded surfaces were covered with peritonium. Abdominal incision was closed with three rows of barried catgut sutures. Wound dressed with dry dressing

---

Alumni Department.

'85. Albert F. Allen formerly at 5456 Ridgewood street has removed to 193 twenty-sixth St. Chicago.

'88. E. J. Miller is now located at Ashton, Ill.

'91. Dr. E. E. Maxey of Caldwell, Idaho. and Miss Edna Horn, also of Caldwell, were married there, Dec. 1, '00.

'93. Allen Salter of Lena, Ill. was in the city recently.

'94. T. L. Round, Tampico, Ill was a recent caller at the "PLEXUS" office.

'94 J. B. Holmes, of Macomb, Ill. is in the city taking a Post Graduate course.

'97. Wm. A. Paterson, 3046 Wentworth, Ave. Chicago was a recent visitor at his "Alma Mater."

'98 W. G. Wegner, of South Bend, Ind., was a recent visitor in the city.

'99 E. A. Sullivan, Amboy, Ill.

Dr. Joseph P. Donovan of this city, son of Judge and Mrs. Anthony Donovan, and interne at St. Elizabeth's hospital, Chicago, has been appointed house physician at the Emergency hospital, Milwaukee to succeed Dr. Gansell, whose term expires April 20. Dr. Donovan was graduated from the College of Physicians and Surgeons Chicago, in April 1900, and has been an interne at St. Elizabeth's hospital since that time. Twenty-three doctors were candidates for the position to which he is appointed, the appointment being the result of a competitive examination. The position is a salaried one. Dr. Donovan intends to locate permanently in Milwaukee.—*Madison Journal.*

'00. Jno. R. Birkelund is located at 17 Hikawa, Cho; Akasaka, Tokio, Japan.

'00. W. W. Cassidy has removed to Durand Wis, from Wabasha, Wis.

'00. R. B. Hixon of Cambridge, Minn., writes that the PLEXUS is a welcome and a regular monthly visitor and that it pleases him to note the gradual advance the College is making. Dr. Hixon has had quitea good deal of surgical work since graduating and has had diphtheria, small pox, etc., galore. He is surgeon of the Great Northern R. R. and chairman of the Board of Health.

William Jacob Nier was born, October 6, 1877 in Vermilion County, Ind. He came to Chicago with his parents when quite young, and attended the public school, graduating from the Walsh school in June 1895.

He went one year to the Joseph Medill High School, and entered the P. & S. Medical College in October, 1896. He graduated in April, 1900.

He died of Bright's disease February 1, 1901, and is buried in Brazil, Ind.

'00. J. S. Meloy was a recent caller at his Alma Mater. He was on his way to Elizabeth, Pa., where on April 28, he is to be married to Miss H. H. Babcock, also a member of the class of '00.

They will make their home at Lincoln, Ill., where Dr. Meloy is enjoying a lucrative practice.

'00. Olin McCormick, of Hersher, Ill., was a recent visitor at the Plexus, having fully recovered from his recent illness.

TO THE ALUMNI.

A good alumni association should be the pride of every educational institution; as well as the pride of its members, for the members of the association reflect to a certain extent the character of the training of their Alma Mater and the character of one another.

The class motto of one of the classes from our Alma Mater was: "Unitas inter nos et Fidelitas Almæ Matri." What a splendid motto this would be for the alumni association. This motto followed out would make it what it should be and what it probably will be in the near future, as the new blood being infused into it at the present time and what will come in the future, is of a character that is acquainted with alumni associations, and knows of their advantages.

The alumni association can be, and is of great service to the college, as the influence of its individual members can and does supply or cause to be supplied the raw material from which the future members of the association are formed.

It is very plainly seen then that the college and alumni association are very much dependent upon one another.

In the arrangement of the alumni exercises last year the faculty in behalf of the college came forth very generously with a liberal donation, and the alumni met them with the result that the alumni meeting of 1900 was the largest and most enjoyable of any similar meeting in the history of the association; and we have no reason to doubt but that the faculty will be as generous or even more so than last year, and if the members of the association will contribute their mite; to wit, twenty-five cents for the year's dues, and as many as possible also their presence, at the appointed time, which is May 27th, we will have even a better meeting than last year.

This is the year for the reunion of the class of '91, and as we expect to put them in position to do the honors of the evening at the alumni banquet, we will expect many good toasts and stories from that class. It is your reunion, boys of '91; make it a good one by your presence and your best efforts.

All graduates of the college, are members of the alumni association, but all are not active members. The active members are those in good standing, and we would like very much to add all of the former graduates to the list of active members.

We also hope and trust that the entire class of 1901 will become active members and we would urge every one to get in line for the alumni week and help to make this meeting, which is in the beginning year of a new century, one that is fitting to such an event. T. F. Faith, Sec. Alumni.

LIBRARY NOTES.

Grace W. Bryant, Librarian.

Since our last notes three hundred and fifty volumes have been classified, accessioned, cataloged, shelf-listed and labeled and are now on the shelves. Of these 160 are French graduating theses, which are considered especially valuable, as each one is written from original work done upon the subject by its author; 180 volumes are periodicals, which have been completed in the last few months and bound. To show the increase in the growth of the library, in ten days in March, more books were cataloged than in the entire two years preceding Oct., 1897.

The following articles by members of the faculty have been noted in the journals:

Dr. W. L. Ballenger—Surgical Ear and Nose Clinic. Med. Standard, April, 1901, p. 185.

Dr. G. F. Butler—How to Write Well. Med. Mirror, Feb. 1901, p. 58.

Dr. F. G. Connell—Intestinal Suture all Knots Inside. Medicine, April, 1901, p. 277.

Dr. W. A. Evans—Individual Prophylaxis. Jour. A. M. A., April 6, 1901, p. 212.

Dr. Adolph Gehrmaun—Immunity as a Factor in Disease. Medicine, April, 1901, p. 212.

Dr. A. J. Ochsner—Etiology of Appendicitis. Med. Standard, April, 1901, p. 182.

Dr. J. A. Wesener—Relation of Indicanuria and Oxaluria to Gastro-Intestinal Fermentation. Jour. A. M. A., April, 1901, p. 956.

GIFTS.

Abercrombie, John—Diseases of the Stomach, 1838. Chic. Homeo. Med. Col. donor.

Amer. Dermatological Assoc. Trans. v. 24, 1900. Assoc. donor.

Amer. Natl. Red Cross Relief Committee—Reports 1898–99. Com. donor.

Bacon, Gorham—Manual of Otology—1898. Dr. J.M. Brown, donor.

Barr, M. W.—Cerebral meningitis, 1892. Dr. W. S. Christopher, donor.

Cincinnati Health Dep't Annual Report, V. 16, 21, 1882 1887. Dr. W. S. Christopher donor.

Connell, F, G.—Exstrophy of the Bladder, 1900. Author, donor.

Frost, W. D —Laboratory Guide in Elementary Bacteriology, 1901. Dr. W. D. Frost, donor.

Grunwald, L.—Diseases of the Larynx, 1898. Dr. J. M. Brown, donor.

Holden, Luther—Human Osteology, Ed. 6, 1885. Chic. Homeo. Med. Col. donor.

Lewis, Daniel—Cancer, 1891. Dr. W. S. Christopher, donor.

Mihles, Samual—Elements of Surgery, 1746. Chic. Hom. Med. Col. donor.

N. Y. State Homeo. Med. Soc., V. 9, 10, 1866, 71–72. Chic. Homeo. Med. Col. donor.

Robinson, Beverly—Nasal Catarrh, 1880. Chic. Homeo. Med. Col. donor.

Shaw, J. C.—Essentials of Nervous Diseases and Insanity, (Quiz-comyend) 1892. Chic. Homeo. Med. Col. donor.

Smith, Edward—Foods, 1873. Chic. Homeo. Med. Col. donor.

Wendt, E. C.—Asiatic Cholera. 1885. Chic. Homeo. Med. Col. donor.

Dr, J. M. Brown—3 reprints, 13 journals.

Dr. S. S. Cohen—4 reprints.

Dr. W. S. Christopher—900 journals.

ATHLETICS.

The team from the Sophomore class under Mr. Waufle's management, took the scalps from the Chicago Dental College Base Ball nine, carrying away 11 points to their opponent's 9.

Line up:

SOPHOMORES.	R	B	P	A	E	C. D. COL.	R	B	P	A	E
Siedell, s s	1	1	3	1	1	Houran, c	1	0	0	2	2
Wilson, 3rd	1	2	1	2	1	Carey, 2nd	1	2	1	5	1
Ryan, 2nd	2	2	4	3	1	Samuels, 3rd	0	1	2	0	1
Sherrell, 1st	2	2	14	0	0	Horn, p. & r f	1	0	1	0	0
Patiero, c f	1	1	0	0	0	Pinney, 1st	0	3	13	1	0
Swarthout, r f	2	0	0	0	2	Houston, c f	2	0	3	1	2
Hilger, l f	1	1	1	0	0	Kern, l f	0	1	4	0	1
Endfield, c	2	2	3	1	1	Sprague, p & r f	2	2	0	6	0
Fucik, p	1	1	1	1	0	Greenfield, s s	2	2	3	3	1

P. and S.—4, 0, 1, 0, 3, 2, 0, 1, 0—11.

C. C. D.—0, 0, 1, 2, 2, 0, 1, 2, 1—9.

Two base hits: Ryan, Sherrell, Samuels. Sacrifice hits: Fucik. Stolen bases: Sprague, Wilson. Patiera. Struck out by Fucik, 3. By Sprague, 3. Base on balls Off Fucik, 2. Off Horn, 4. Time of game, 2:50.

P. and S.—N. W. U. 12. Costly errors just when we needed team work cost us the game on Sheppard field. A little more practice with such promising material as we have and P. & S. will be in the game all the time. The excellent fielding of Patera and Bothne along with good hitting by Ryan and Sherrell and Fusik's stab work were the features of the contest. Tillitson for N. W. U. pitched a steady game.

Line up:

N. W. U.	R	H	P	A	E	P. & S.	R	H	P	A	E
Jackson, 2nd	2	2	4	5	0	Sherill, 1st	0	3	13	0	2
Smiley, 1st	0	0	13	0	1	Ryan, 2nd	0	3	1	5	4
Cermak, r f	2	2	0	0	0	Wilson, 3rd	0	1	2	1	0
Fleager, l f	1	2	1	0	0	Sawtell, c	1	1	0	2	4
Tillitson, p	1	0	0	5	0	Bothne, c f	0	1	3	1	0
Johnson, c f	2	2	0	0	1	Lennon, s s	0	0	0	1	0
West, c	1	1	7	4	0	Pateria, l f	0	1	4	0	0
Hard, 3rd	2	0	1	3	2	Parry, r f	1	0	1	0	1
Bemis, s s	0	1	1	0	0	Fusik, p	0	0	0	7	0
						Feeney, p	0	0	0	0	0

Stolen bases, N. W. U., 5; P. & S., 3; two base hits, Jackson Cermak, Ryan; double plays, Tillitson to Jackson, to Smiley· Struck out by Tillitson, 5; by Fusick, 3; by Feeney, 1; base on

ball off Tillitson, 3; off Fusick, 1; off Feeney, 1; passed balls. West 1, Sawtelle, 1. Time of game, 1:50. Umpire Coffin.

NOTES OF THE GAME.

P. & S. had twenty ball players out ready to get in the game. The rooting of the extra force equalled any 10, 20 and 30.

Ryan's sensational one-handed stop back of second and the put out was pretty fielding.

Dr. Hollister bought a ton of coal and had it sent to the gym during the game. Bothne hung his clothes on the floor, during his absence, the coal man emptied the anthracite squarely over Both's garments. Did Bothne shovel for one-half hour? He did.

The series of games with Rush will open Wednesday, May 1st. Let every student come out and shout.

SENIOR NOTES.

On the 18th of March Mr. McPherson was compelled to submit to the pathological development existing within his vermiform appendix, and have their further action checked by having the useless structure cut out. Dr. Steele removed the same about 3:30 that afternoon. Mack stood the operation fairly well, and a good primary union was the result. Three weeks later Mack is seen back at his post of duty.

Mr. Alexander received word on Tuesday, the 19th of March, of the death of a nephew. While needed at his post here, he felt as any loyal brother toward the members of the family that it was his duty to attend the funeral and extend words of sympathy to the bereaved family. He in company with his wife attended the funeral, returning on the following Monday to school work.

Mr. Rhodes was called home very suddenly owing to the illness of his father. It was but a few days until the sad news came back to us that his father had died. His life expired April 4, 1901. While the class has not expressed its sympathy officially by some token of love, never the less Mr. Rhodes can feel and know that he has the deepest sympathy of every member of the class in these lonely hours of bereavement.

Dr. Ochsner to Mr. McCall—What is a Bubo? McCall—It is an infection from the intestinal canal.

Dr. Holmes has returned to his class work after an absence of several weeks. The general opinion was that he had lost his voice during his absence, but it took him only a few moments to demonstrate the fact that a sufficient force yet remained to make himself easily and plainly heard. The attention given in Dr. Holmes' classes is almost perfect, consequently he does not have to exert himself in order that his voice may reach a higher pitch than the "hum" which is so characteristic in some of our classes. The class is glad to welcome Dr. Holmes back, and trust his voice may remain full and strong.

It is amusing to go into the library since Dr. Holmes has returned, and see the seniors rummaging through the books in search for the unknown. He certainly has the faculty of making his students work, also the librarian.

Dr. Holmes asked the guestion, "How far down on the leg wonld it be necessary to extend a plaster cast in order to completely immobilize the hip joint?" Some members of the class thought that just below the kuee joint was sufficient, while others thought it should extend to the ankle, etc. It was concluded that it should extend to the toes. Then the question came "why." Senior "S." said it should be so placen so that it would not slip off.

Our house-surgeon, Mr. Charles O. Wiltfong, recently read a paper before the Indiana Medical Association. His subject involved anæsthesia and anæsthetics in general. Mr. Wiltfong's experience, while short in reference to time, has been never the less quite active in that line of work. There is no doubt but that Mr. Wiltfong had a well and thoughtfully prepared treatise on anæsthetics, and certainly threw out some practical suggestions. It is always a self-evident fact that by improving such opportunities one not only do others good but strengthens his own resources. "Go ye and do likewise-"

On a public thorough-fare,
  Where students move in masses
Where half a dozen people
  Hail a street-car as it passes,
Where all is noise and rush and din
  Chimes the voice of the small boy in singing:
    "Five o'clock pa-pa *a a*.

His little face is tanned with sun,
His trousers need suspenders,
His shoes and stockings need repair
(His sympathies not tender),
His life is full of ins and outs,
But above it all I hear him shout
"Five o'clock pa-pa *a a.*

News-Journal. Five o'clock!
His eyes seek those of many,
His hands into his pockets go
And finds a lonesome penny.
Lonesome pennies for business tell
For louder than ever I hear him yell
"Five o'clock pa-pa *a a.*

For hours it seems I hear him cry
Above the roar of noise
And many a time I wonder why
My work is so full of pauses.
His little voice has touched in me
A chord of humane sympathy
"Five o'clock pa-pa *a a.*"

MISS NINA D. POLSON.

A CONTROVERSY AMONG FLOWERS.

As the rain gently falls
We hear them calling, one and all,
Come out! come out! ye little flowers
And scent the fragrance of these showers.

Ha, ha, says Jonny-Jump-Up,
Your a beaut, growing from a rotten stump
You look so anæmic and tender
I wonder if you're well, you are so slender

The Dog-toothed Violet feeling sadly
Responds to Jonny Jump-Up gladly,
My physiognomy may seem to you chlorotic
But I am not indigenously idiotic.

Who is that feller over there—that toe-head
He ought to be burried for surely he's dead?

Oh, responded the violet, the Dandelion you mean,
A poplar personage is he, and by many well esteemed.

'Tis for me the urchins look the meadows o'er,
They pluck me here; there and everywhere as of yore.
They put me here, place me there, stick me in the hair,
And I'm gathered, cleaned, stewed and eaten by maidens fair.

Hark—what is that I hear over the way?
Oh that's Jack-in-the-pulpit, he is preaching today,
He's preaching to the May flowers and Sweet Williams you see
He believes one should be secluded and live the life of a Pharisee.

SOPHOMORE NOTES.

Prof. O'Byrne, always a prime favorite, occupied Prof. Evan's hour, during the latter's recent absence.

Dr. Butler secured a still stronger hold on the esteem of the class by recently reading in advance a paper which he was to present at a meeting of the Detroit Medical Society during the following week. The professor has the hearty support and co-operation of every one in the Sophomore class, and although his adjunct is treated with the consideration he justly merits, there is evident disappointment whenever the Sage of Alma is prevented from filling his appointed hour. The practical benefit of the work presented each Wednesday forenoon is so apparent to all that it is no wonder expressions of regret are heard at the seeming meagre time allotted to this branch on the time card.

A rumor comes from Quincy, Ill., that Wessels contemplates joining the Benedics. It is said that the affair will come off during the month when brides and roses are supposed to flourish in greatest abundance. We trust we will not be considered premature in extending congratulations.

J. L. Smith was operated upon by Dr. Dahl at the Norwegian Deaconness Hnspital, April 3rd, for tubercular glands of the neck. At last reports the patient was progressing favorably, and his early recovery is anticipated. We shall be glad to note his return.

Yates surprised all by his description of an alcohol sweat. It must have been a case of lapsus memoriæ, because the details

of preparation and execution of this procedure were related very succinctly by one of our lady members some time ago, and mention thereof was subsequently made in these columns. If Charlie wishes to refresh his memory he might look over the files of the PLEXUS for the last four or five months.

Cohen would suggest the use of the cathether in ascites.

Lofgren's description of gout was all right but he was stumped when asked to define the poor liquor he referred to in connection with that form known as "poor man's gout."

The result of the ball game April 13, when the P. & S team won from the C. C, D. S. nine by the score of eleven to nine proves conclusively that Manager Waufle has secured an all star aggregation of players, and the excellent reputation of this institution maintained in the past will suffer nothing at their hands in the future. Mention of the particularly brilliant members of the team would necessitate naming each individual player, because every man acquitted himself gloriously. The day was rather too cold for comfort, but the warmth of the game and the enthusiasm of the rooters for their respective representatives, compensated in a measure for the chill atmosphere: The attendance was rather disappointing, due probably to the inclement weather. However, there is every reason to believe that the kind of ball seen in this game will draw better crowds when the weather conditions are more propitious.

The playing order of the team was unchanged from beginning to end, the substitutes having to content themselves with watching the game from the bench. The Dents, on the contrary, were forced to change their men around because of the onslaught made on their battery. This move only stemmed the tide of hits and runs temporarily, however, and the star pitcher from across the street was found frequently and with regularity. Fucik pitched a clever game, with the exception of the seventh inning, when he let down out of compassion for the poor, hard-working tooth-pullers, who, up to this time had secured only a few scratch hits, and had but two tallies to their credit. Six runs in this inning served to brighted up the hopes of the dents, and from this time to the conclusion of the contest there was no lack of spirits and vim in either players or onlookers.

Fucik will never be accused of nepotism. His cousin of the

opposing team struck out twice, and the third time popped up a little easy fly which fell into Fucik's hands just outside the box.

Sherrill made a gallant effart to get around the diamond on a muffed ball at first base, but was nipped at third. The tumult along the first base line evidently gave him the impression that he had time to burn.

Wilson was a revelation on third, accepting all kinds of chances, with but one or possibly two errors. His batting also was a feature.

"The Brewer" in left garden won the admiration of the Sophs for his masterly handling of several hard ones.

Joyce was about to distinguish himself in the fifth when Enfield was sent to first in a crippled condition, but Martin got no farther than pulling off his sweater and turning his cap hind-side foremost.

Two runs served to start up the C. C. D. S. band at the end of the fourth inning. Their band is all right anyway.

The bright new navy blue suits of the P. & S. team with scarlet stockings and caps are becoming and tasty.

The playing schedule so far arranged comprises the following games:

April 20—Lewis Institute.

April 27—Milwaukee Medical, at Milwaukee.

May 4—Valparaiso Normal, at Valparaiso.

May 11—St. Viterus College, at Kankakee.

May 18—Watertowns, at Watertown, Wis.

In addition to these a series of games is being arranged to begin May 25th which will take the club on a somewhat protracted trip.

FRESHMAN NOTES.

Jos. Greaves is down with the measles. However at present he is much better.

Reitman, "the class orator," took a three weeks' course at the Chicago Polyclinic.

Miss Hayes to Dr. Shaw, after the hour, when giving an excuse for a poor recitation on arteries. "Really, Dr. Shaw, I lost eighteen pounds last night studying this, I think the lessons entirely too hard."

Miss Hagans was forced to be absent a week at the beginning of this month on account of threatened pnuemonia.

Stevens and Stewart forgot until too late that the carfare from down town is ten cents, so it was a case of "guess" whether they should walk home, or get coffee and rolls for supper. They chose to ride out, and Merritt says that two minutes after they met him he chose to buy the supper.

Jarvis has the hardest luck of any of the class. While working in the Physiological Laboratory he broke a glass tube, the end of which penetrated his hand. His hand became infected and gives him great pain, depriving him from study and rest.

Some one said they found Wood's diary and noticed this, and this alone. April 16, 1901—Borrowed seventy-five from Twohig, got my laundry, laid aside my sweater, and wore a shirt and collar to the college.

Mrs. Wistein gave an anniversary party last Sunday. The Misses Thomas, Moore, Sherlock, and Messrs. Archer and Montgomery were the fortunate ones to receive invitations. They report an enjoyable time.

Sanmetto in Genito-Urinary Atony and Vesicle and Urinary Irritability.—I have used Sanmetto quite extensively in my practice in cases of genito-urinary atony and general vesicle and urinary irritability. I have always found it safe and reliable. When other means fail me, I find that I can rely upon Sanmetto to help me out. O. C. Vermilya, M. D.

Fremont, O.

EXAMINATION QUESTIONS FOR INTERNESHIP IN COOK COUNTY HOSPITAL.

ANATOMY.

1. Describe the sub-clavian artery, giving its division, relation and branches.

2. Indicate by diagram or description the relations of the peritoneum to the various structures shown in a cross section of the body through the foramen of Winslow.

3. Show by diagram the formation and division of the

brachial plexus, and indicate the parts supplied by each nerve branch.

4. Give in diagram or description the histologic structure of the cortex of the kidney.

MEDICINE.

1. Describe the clinical course of variola and differentiate it from the diseases with which it may be confused.

2. Describe the symptoms and signs of uraemic coma. Differentiate fully from:
   (a) Coma of apoplexia;
   (b) Coma of alcoholism;
   (c) Coma of typhoid fever.

3. Give the causes, morbid anatomy, clinical course, physical signs, diagnosis and prognosis of acute endocarditis, and differentiate by physical signs from sero-fibrinous pericarditis.

4. Differentiate acute articular rheumatism by clinical course and physical signs from:
   (a) Gonorrhœal arthritis;
   (b) Acute gout;
   (c) Septic arthritis.

EYE, EAR, SKIN AND VENEREAL.

1. Give the causes, symptoms and treatment of acute otitis media in children.

2. What are the causes of eye strain? Describe the symptoms?

3. Describe the eruption of Psoursis and treatment.

4. How would you diagnose a case of acute gonorrhœa and outline a course of treatment.

PATHOLOGY AND BACTERIOLOGY.

1. Describe gross appearance of atrophic cirrhosis, obstructive biliary cirrhosis and advanced syphilitic cirrhosis of liver.

2. Morphology, staining peculiarities and pathogenic action of Bacillus diphtheria.

3. Describe gross appearance and the microscopic structure of hypernephroma (adrenal tumor) of kidney.

4. Pothogenesis and morbid anat. of chronic myocarditis.

MATERIA MEDICA AND THERAPEUTICS.

1. Dose of diphtheria anti-toxin.
   Official name in genitive case, and dose of chloral pilo--

carpine, elatarium, castor oil, sweet spirits of nitre, nitro-glycerine, Fowler's solution, apomorphine, in all forms.

2. Salicylic acid and its compounds.

Action of (1) circulation, (2) nervous system, (3) secretion and (4) temperature.

Uses and doses.

3. Action of atropine on

(1) Circulatory system;

(2) Respiratory system;

(3) Nervous system;

(4) Glandular system;

(5) Alimentary canal;

(6) Temperature;

(7) The eye.

4. Action and use of Thyroid extract (iodothyrin, thyroiodin.)

QUINE, HERRICK AND JACSON.

SURGERY.

1. Give morbid anatomy and treatment of compound fractures.

2. Give morbid anatomy and treatment of stricture of the deep urethra.

3. Describe the various bloodless methods of dividing tissues.

4. Describe the morbid anatomy and treatment of luxations of the ulna at the elbow joint.

VAN HOOK, SENN AND SWAN.

CHEMISTRY.

1. Give method of extracting alkaloids from stomach contents and give tests for following: Morphine, Strychnine and Atropine.

2. What variety of sugar is sometimes found in urine. How determine its presence? How differentiate chemically between cane sugar and grape sugar, grape sugar and dextrine?

3. (a) Formation, general properties and varieties of ptomaines.

(b) What reactions occur in making Sodium Hypobromite solution for urea test and what reactions occur between urea and the test solution?

4. (a) Reaction between lime water and corrosive sublimate.

(b) What occurs on adding excess of solution of phosphoric acid to calcium carbonate?

(c) What is reaction between alcohol, iodine and potassium hydrate?

(d) What is reaction of nitric acid on copper?

HARTMAN, O'BYRNE AND BUTLER.

GYNECOLOGY.

1. What is the significance of uterine hemorrhage from (a) gravid uterus, (b) non gravid, (c) non-menstruating.

2. Give the etiology of bilaterial pelvic peritoneal exudates, course and prognosis.

3. Give the differential diagnosis between appendicitis and salpingitis.

4. Give the rational treatment of uterine prolapse, stating the indication for the intervention practice.

TOPE, DAVIS AND MCKELLAR.

PHYSIOLOGY.

1. Give the physiology of the blood leucocytes.

2. Give the theory of blood coagulation.

3. What are the causes of (1) increased and (2) decreased blood pressure.

4. Describe the various actions on the food of the secretions of the salivary, gastric and intestinal glands, and describe the various secretions of these glands.

5. The neuron.—Express in general terms the external and internal morphology of the neuron. Give the functions.

State what you know of any demonstrable change occuring in neurons as a direct result of fatigue naturally or artificially produced.

OBSTETRICS.

1. Treatment of hemorrhages that occur in conjunction with pregnancy and labor after the sixth month of utero-gestation.

2. Describe the treatment of transverse presentations.

3. Give the indications for symphyseotomy, and compare the different varieties of technique.

4. Give the differential diagnosis and treatment of abortion and its sequelæ at the third month of pregnancy.

Committee { LEWIS, EARLE, LEEMING.